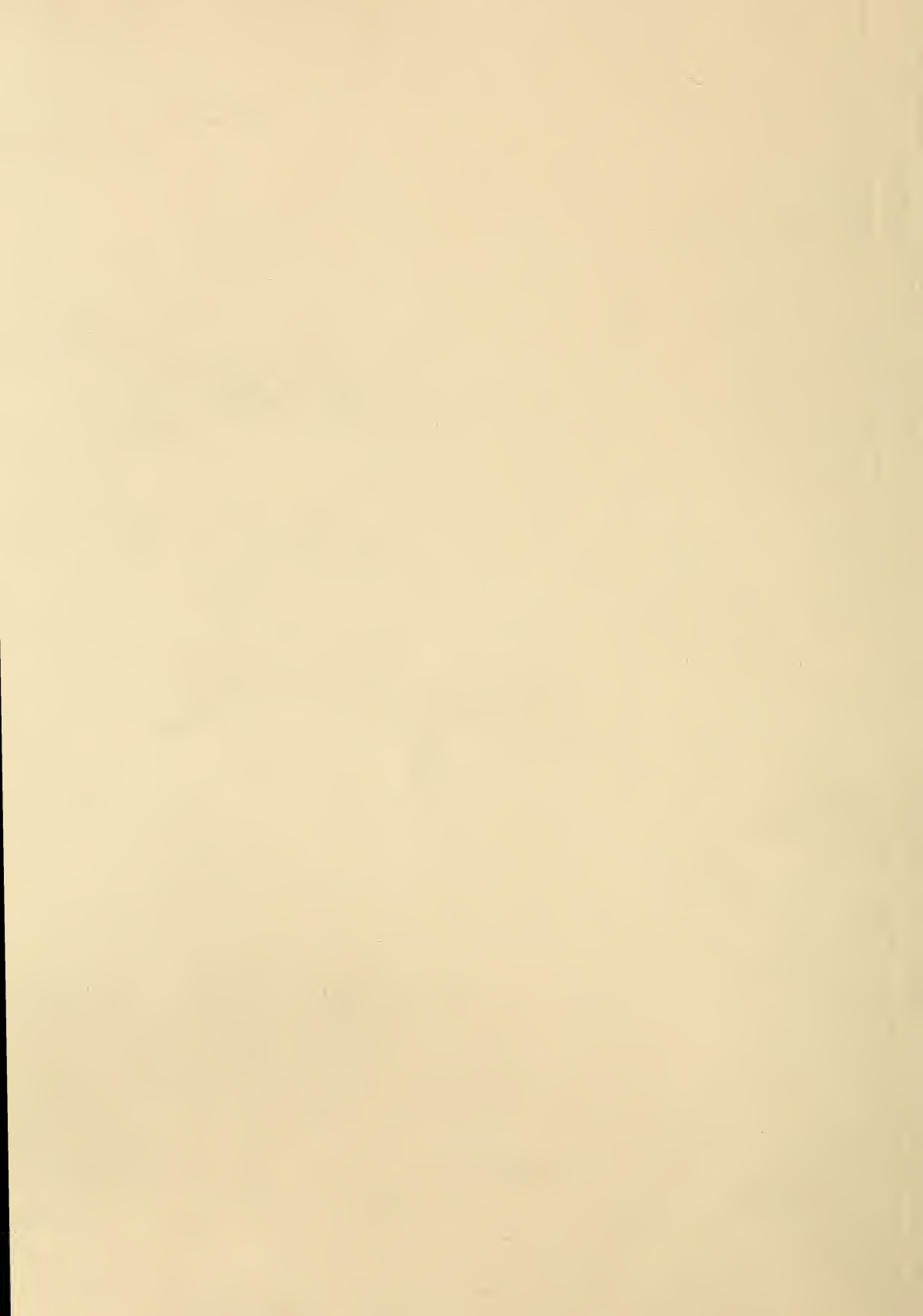


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GLEANINGS IN BEE CULTURE

A JOURNAL DEVOTED
TO BEES
AND HONEY
AND HOME
INTERESTS.

ILLUSTRATED
SEMI-MONTHLY

Published by THE A. I. ROOT CO.
\$1.00 PER YEAR MEDINA, OHIO.

VOL. XXVII.

NOV. 1, 1899.

No. 21.



SOMETIMES it happens that, by some means, some nice sections of honey have their faces so daubed as to be almost spoiled. Put a super of such sections over a hive and take away as soon as the bees have had time to lick off the daub.

I NEVER used a sheet of cloth, as mentioned by Capt. Hetherington, p. 750, to cover honey-cases in a car, but last week I used newspapers, tacking them lightly on the cases. The cloth has the advantage that it is all in one piece. Perhaps better than either would be manilla paper pasted together.

MR. EDITOR, if you think it for the general good to have your program arranged to shorten up the spelling throuth the whole catalog of words ending in *ue* and *ugh*, I'll try to bear it manfully, even tho it does sometimes jolt me in reading. But, say; won't it leave the word rather short if you drop the final *ugh* from the interjection "ugh"?

YOU CAN NOT give the absolute weight of any section of a given size, for one year it will be heavier than another. But I can give the relative weights of three kinds of sections for this year.

5676	beeway	$4\frac{1}{4} \times 1\frac{1}{2}$	averaged	14.94	oz.
442	plain	$5 \times 4\frac{1}{4} \times 1\frac{1}{4}$	"	13.82	oz.
345	"	$4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$	"	13.83	oz.

THE SHIELD of a Crane smoker became unriveted for me, as mentioned p. 754, but I had hardly thought of it as a fault, for the shield did just as good service after it was loose. [The shield of the Crane smokers, and also of the Cornell, are not only double riveted for 1900, but have washers that enable the rivet to maintain a stronger hold upon the metal of the shield.—ED.]

THE ANNOYANCE of having inky drops fall from the nozzle of the smoker upon nice white sections is sometimes very great. I never really knew how to avoid it until lately Critic Taylor of the *Review* said to use very dry fuel. Simple enough! There can't be

any drops of dirty water unless the water comes out of the fuel. But I never was bright enough to think of it.

RAMBLER is making trouble, p. 759, by talking about the longing for the "favored clime" of California; and when he talks about the roses I just feel like getting out of this place where the thermometer goes down to 24° in September. But when I turn to p. 751, and think that in California I might "have to live alone or in the mountains with my bees, as so many California bee-keepers do," I feel content to stay here and freeze. I'd rather have folks than a "clime."

F. GREINER is right about the two distinct faults of the Daisy foundation-fastener, the mussy dripping and the lack of room for the lamp, or, rather, for the chimney, for there's no difficulty about getting a lamp to suit. I have used a tin chimney of just the right height, and don't know of any advantage the glass has. Just a plain tin tube of the proper length and the same diameter as a No. 1 chimney at the bottom might be sent out with each fastener, and in my judgment it would be a good deal better than to change the fastener to take a glass chimney. [The Daisy foundation-fastener has been changed for 1900; and the objections that have been named by Mr. Greiner have been entirely eliminated. I think I had better send you a new plate that you can attach to the Daisy. It is a "daisy" now, I assure you.—ED.]

MR. EDITOR, you talk some pretty good talk on page 753 about being liberal and not judging too harshly. Now, I'm not going to put any mischief into friend Ochsner's head, but I can hardly blame him such a great deal if he should say to himself, "I wonder why in the world the editor didn't talk that same way when a man was talking about taking my favorite sections to some swamp and stamping them out of sight in the mud!" [When friend Ochsner, on page 753, spoke about Orton's saying that the old $4\frac{1}{4}$ sections ought to be "stamped in the mud," I could hardly believe that he had made any such statement. When I first read the article, preparatory to putting on my footnote, I did not notice it and that is the reason why I made no refer

ence at the time to it. But notice particularly, doctor, that when I did reply to it I made the statement *not* for the benefit of Mr. Ochsner, but for Mr. Orton. It was the latter who talked about stamping the sections in the mud, and not Mr. Ochsner. While I can see no good reason why the $\frac{1}{4}$ beeway section should be preferred to the same size plain, I believe in giving the Devil his due.—ED.]

A CORRESPONDENT sends me a document sent out by The A. I. Root Co. in which the word "clubbed" is cut in two, the "club" being at the last end of one line and the "bed" at the beginning of the next, suggesting that phonetic spelling would have given room without resort to such division. I should feel like entering a protest against the practice of dividing a word of one syllable, only if I should do so that fiendish proof-reader would fling back at me that I not only sometimes divide a syllable but put the hyphen with the fragment that begins the second line. [The division of any word at any time is objectionable, and is tolerated only as a necessary evil. Where the line is long, and type fine, a careful printer can get along and make almost no divisions; but as the line becomes shorter and the type larger, divisions become more and more unavoidable unless a still greater objection is introduced—that is, putting extremely wide divisions between the words. The point referred to was discussed in the latest issue of the *Inland Printer*, and the judges decided that it is not best to make a rule that *ed* shall not be cut off unless it has a distinct sound, as in *exhausted*. Such a rule would make great inconvenience in lines as short as ours, while it would not interfere with the *American Bee Journal* in the least. As Mr. York well says in a private letter I lately received from him, the audience is not critical enough to make such hair-splitting pay. The Bible abounds in such divisions as you refer to, such as *shew-ed*, *compass-ed*, *worship-ped*, etc. The French continually divide what we call one syllable.—PROOF-READER.]

R. WILKIN, p. 751, says that alfalfa honey, "if not the most popular, is a very fine honey." That hint that alfalfa honey is not popular is a surprise to me. I can hardly see how it could be unpopular with any except those who like very strong flavors. In one respect alfalfa stands at the head, and that is where sweetening is wanted without the flavor, as in coffee. The use of honey in coffee and tea is greatly to be commended on the score of health, but the flavors of most honeys are objectionable. The flavor of alfalfa is so mild that it takes the lead as a sweetener for hot drinks. [When R. Wilkin was speaking about alfalfa honey not being the most popular, I suspect he had reference principally to the State of California, or those localities where white mountain sage is produced. I never saw the Californian yet who did not prefer this honey to the best white-clover honey or the best alfalfa; and the very fact that buckwheaters in York State prefer their dark rich honey, which most of us dislike, goes to show that locality and the education of taste have a good deal to do with the local popularity of

any one kind of honey. Although I have been brought up on clover and basswood, preferring the clover, yet as between these and alfalfa I prefer the latter. As between alfalfa and white mountain sage the alfalfa suits my taste better. Yes, if the time ever comes when alfalfa honey will be produced largely in California, we shall expect a revolution in taste; but for absence of flavor I think mountain sage will stand ahead of alfalfa. In that respect it would be even better for sweetening coffee and tea. It is true that honey for sweetening either of these table drinks is not very desirable unless there is little or no flavor. Buckwheat honey would be the least desirable, while white mountain sage or alfalfa would be the best; and yet even these, as mild as they are, will not be liked as well as cane sugar, which comes as near being a real sweet without flavor as any thing in the world.—ED.]

"THERE ARE some people who wear Congress gaiters, and yet I suspect a great majority will wear nothing but laced shoes"—page 753. Yes, very few will wear Congress shoes, just because they can't get them. I bought one pair of laced shoes a year or so ago; and if I'm ever forgiven for the time I wasted in stringing up those shoes every morning I'll never buy another pair so long as I can get Congress shoes by paying a good deal more. And *sometimes* bee-keepers use a thing, not because they like it best, but because of the difficulty of getting what they do like. [I used to wear Congress gaiters exclusively, and was wont to say, as you now affirm, that I could not afford to waste time in stringing up shoes every morning, to say nothing of the inconvenience of being doubled up like a jack-knife for a period of a minute or two; but after I had worn two pairs of the laced, I discovered that they were easier wearing, and they permitted me to make the shoe fit my ankle; whereas the Congress shoes, owing to excessive tension of the rubber, very often pinched the ankle so tight as to be decidedly uncomfortable. After the shoes became old the rubbers would stretch out, and then I would have that degree of comfort that I now have with laced shoes. Now let me tell you what induced me to discard the Congress shoe. I had been making a hundred-mile run on the bicycle, with Congress gaiters. On arriving at Dr. Mason's that night I told him my ankles were swollen. I remembered that, during all the ride, they were very uncomfortable. After the doctor's examination he exclaimed, "Why, Ernest! don't you know better than to wear such tight rubbers around your ankles?" Well, the result was I took my knife and split the rubbers till I had room. But this preference for Congress gaiters and laced shoes illustrates very nicely, I think, the preference that bee-keepers have for various devices that are used in the apiary. I have known some bee-keepers who preferred the Clark cold-blast smoker to a Bingham or Corneil, even at the same price. For my part I would not take a Clark as a gift, providing I could get a hot-blast; and yet how the other fellow can prefer the cold-blast is something I can not understand.—ED.]



The gloomy clouds now fill the sky,
 Surcharged with hail and rain;
 While eating summer's hard-earned stores
 We'll laugh at summer's pain.

AMERICAN BEE JOURNAL.

Owing to the drouth in Texas, many bees are starving to death.

A commission house in Chicago received two barrels of honey from a bee-keeper. Not needing it they sold it, on a snap offer, for 25 cts. a gallon—2 cts. per lb. How much did the bee-keeper get? Mr. York justly speaks of bee-men like that as "fools."

Mr. John Carson, of Newton Falls, O., aged 65, was stung to death recently. He tried to burn some sulphur near his bees to render them harmless, when they covered his head. He rushed to the house, fell on the floor, and died in a short time. The moral is, use a veil.

At a convention in Texas the question was asked if the color of honey has anything to do with the color of comb. All agreed that it has. One case was cited where the darkest kind of honey had very white comb. This was supposed to be because the honey was "bug-juice," hence the bees did not use it for making comb.

The omission of the convention report is due to the illness of Dr. A. B. Mason. He was unwell on his way home, and found, on reaching Toledo, that his daughter Flora had broken her right arm, but the news was concealed from him till he reached home. This increased his own work so much that he got behind. Mr. York is entirely excusable, especially as his journal is none the less interesting. But it does give a printer a "feeling of gouneness" to be obliged to drop a stitch in a series of articles.

Mr. Thos. Elliott, of Illinois, gives the following account of a serious sickness he had, induced by inhaling vapor when rendering a lot of combs from colonies that had starved. He says:

Some three years ago I boiled down the combs from 150 hives in which the bees had starved out during a dry spell in California, and there were a great many dead bees in the combs. I used the extractor-tank outdoors, and it took me two days. From that time on my health failed. I can best describe it by saying that in one year I had become 40 years older. Every sense, feeling, or organ, in the human body, that can be affected, came under the influence of the poison. I was in a manner paralyzed, and the doctors told me that I could live but a short time.

He consulted a physician in Chicago, who understood the case, and under his care the patient recovered. Such work should be done outdoors, where the wind can carry away the foul odors.

Some one speaks of the Alley trap as a "big nuisance," on the ground, apparently, that some of the pollen on the bee's legs is brushed off in passing through it. I let Mr. Alley make his own defense:

Suppose a little pollen, say one per cent of all the bees collect (and it is not more than that amount), is brushed off the legs of the bees when they pass through the metal, does any one have an idea that that would in any way affect the prosperity of the colony? The person who asserts that the trap is a "nuisance" most likely is one of those bee-keepers who have not been long in the business, or it seems to me he would not now attempt to discuss the merits of the trap, as these same charges, years ago, were brought against it, and no one took any stock in them; and I do not believe they will now.

Mr. C. Theilmann, of Minnesota, makes the startling and positive statement that the celebrated Dzierzon theory is fallacious, and that he has shown it to be so. He says his formula is so simple that almost any bee-keeper can satisfy himself that bees can and will produce either sex from eggs laid in worker-cells by a normal queen. If Mr. T.'s claims are correct, Mr. Dzierzon will be one of the first to recognize them. Some time ago I read in a foreign journal that Mr. D. was revising his own theory, and that he might some time abandon it.

Mr. C. P. Dadant is an advocate of feeding bees well in order to get stores. His advice to a correspondent to do so is followed by the report below:

My bees were near starvation, and I did not know what to do. I thought it would cost too much to feed them, so I asked you if you thought it would pay. You replied that you would feed them all they needed, even if you had to borrow the money to do it. So I was encouraged, and bought the sugar for feeding, being about a barrel and a half, which supplied them until the harvest began.

My crop this year was 2200 pounds of fine honey, while my neighbors, who keep as many colonies as I do, got very little from them, and some not a pound. One of them, who has kept bees for 15 years, had 30 colonies, spring count, did not feed, and he got only 3 swarms from the 30, and very little honey.

I had 27 colonies last spring, which I fed just as you directed, and I took off the 2200 pounds of honey, and had 35 swarms besides, which I think is pretty good for this year.

I began in 1893 with one colony, being 25 years of age. I have been successful ever since in wintering, not losing 3 colonies in the six years of my experience.

Fayette Co., Iowa.

TOFIELD LEHMAN.

AMERICAN BEE-KEEPER.

Mr. J. L. Lattimer recently argued for the old-style sections in place of the new. In my reply to him the editor thinks I did not understand Mr. L., and says:

Stenog has evidently misconstrued Mr. Lattimer's remarks. Surely he nowhere anticipated the probability of both styles of sections being placed in competition on the same table; but sought simply to illustrate the superiority of his choice by such supposition. Nor do we see wherein he recommends placing the honey upon the table without first removing the wood. According to Dr. Miller, and popular usage, the word "section" in his fourth paragraph plainly and properly meant the honey and not the wood.

That certainly makes a difference. But it did seem strange to me that a mere accident should be deemed likely to happen to one kind of section and not to another. By the

way, how should comb honey be served on the table? Some put a little on a dish at each plate, while others put it all on one large dish, and let each help himself. But is not the shape of the whole chunk, as it leaves the section, entirely lost by cutting the comb into smaller pieces? People should be led away from what is a mere whim; but if they insist on the whim, and are willing to pay for it, let them have it.

W

Mr. Ed. Jolley says: "Nothing helps more to sell comb honey than nice, clean, white sections. It is always poor economy to buy second-class or discolored sections. The retail dealer will find readier sale for a poorer grade of honey in nice, clean, white sections than for fine honey in dirty or discolored sections." In the latter case, why not point out the slight bearing the section has on the matter, and say that is not intended for food? But as some customers, especially women, are so notional about mere looks, perhaps it would be well to show them the great importance of buying honey in very white sections.



RAMBLE 178.

The Dog and the Grub-box.

BY RAMBLER.

"Good-morning, Mr. Brodbeck."

"Good-morning, Rambler. Well, you are on time, I see."

"Yes, Mr. Brodbeck; I always try to be punctual in appointments. I do hate to expect a fellow for half an hour after the appointed time, and the longer I wait the more fidgets I get; and when I am not on hand at the appointed time I feel that I am inflicting the same discomfort upon the friend who is waiting for me. Well, I suppose you have every thing ready for a start."

"Yes, all but loading a few things into the wagon; and if you don't mind lifting them in, Mr. Rambler, while I harness Prince, you may do so. My old trouble, elephantiasis of the plasmodium, bothers me again this morning, and I can not lift worth a cent."

"All right, Bro. Brodbeck. Why, I can lift any thing; and it is a real pleasure for me to aid you. I am sure you must be very weak with that old complaint in your system, and I hope this trip to the San Gabriel Canyon will do you good. Why, I was once troubled with the evolutionary phlandangoes, and really felt—well, I suspect that a gypsum mummy doesn't feel—but I felt about as they look; but I started right off on a camping-trip into the San Bernardino Mountains, and came back as chirk as a chipmunk. But, see here, Brodbeck; what are you going to do with this sledge-hammer and pickax?"

"Ho, ho, Rambler! Why, didn't you know there is good gold-mining in the San Gabriel Canyon? Just think how nice it will be for us to strike a gold-mine! Won't that work well after two failures in the honey crop, hey, Rambler?"

"Brodbeck, I am too full for utterance. You strike me on a tender chord. Gold, gold always so near, in other men's pockets, but so far from mine. Why, Brodbeck, if it is gold we are after, let's take a whole load of picks and shovels."

"Hold easy, there, Rambler; don't put that grub-box under the seat."

"Why, Brodbeck, it just fits in there; and then there is one advantage in having it under the seat—you won't be getting your fingers into it between meals."

"Well, you see, Rambler, I want that place reserved for Juno."

"Great Scott!" (I came near dropping the grub-box) "and you are going to tote that dorg too? Well, I do declare!"

"Yes, she is always so lonesome without me; then there is a little whooping-cough in the neighborhood, and I am afraid she will get exposed, so I will take her along."

"Well, now, you are the dog-goned-est fellow I ever saw. Why, when I owned a dog I taught it to trot along under the wagon. Why, I know a dog is happier to be allowed to run and skip like Mary's little lamb. But, say; I have another excellent plan. Put the dog into a box and hang it on the hind end of the wagon."

"Not much. Why, Rambler, you talk as though I do not know how to use a dog. Why, a box is too confining."

"Of course, Brodbeck; I understand all that; but I was going to suggest the attachment of a ventilator; but all right—we won't have any mental aberrations over the matter. But, say; it occurs to me that you own the horse, the wagon, and the dog; now, do you own and have a controlling influence over the fleas on the dog?"

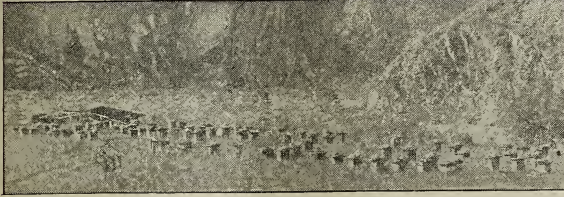
"Well, that is another downright insult to my knowledge of dogs. Why, Juno wouldn't know a flea if she should see one."

"That is probably a fact; but she evidently knows when she feels them. That's right, Juno; dig 'em out. But say, Brodbeck, I won't stand on such a little thing as a flea. If they get too plentiful I can flee; and if I flee you will have to submit to all of the fleas or flee yourself. Hurrah for the San Gabriel!"

We had a delightful drive that day up through the San Gabriel Valley. While the evidences of a long-continued drouth were visible, there were other evidences that even long drouths are not without their blessings. The salvation of this country depends upon water; and as but little of it comes from above it must come from below; and during an unusual drouth there is an extensive development of water. No matter how unyielding the skies are, there is always plenty of water deep down in the earth. Wells are drilled, and in many places the artesian water flows in copious streams from the pipes; but usually the pump is resorted to, and steam, gasoline,

and electricity are the powers applied; and what nice streams are poured out upon the thirsty land! and what nice fields of alfalfa were growing!

"Why, Bro. Brodbeck," said I, "it is only a question of time when this whole valley will be under cultivation, and thousands of acres of alfalfa will be grown; and then, instead of there being no bees down here in the valley, there will be many apiaries."



APIARY IN THE SAN GABRIEL CANYON.

"Yes," said Mr. Brodbeck; "then see the long avenues of gum-trees already here. This will certainly be a paradise for bee-keepers some time."

We camped that night in the mouth of the San Gabriel Canyon, and near one of those pumping-plants. A company had dammed the river here, and they were pumping a large stream of water, and sending it in pipes to the valley; but there is not a drop of water in sight in the river—nothing but great boulders, and no signs of a dam. Back east we build a dam across a stream and depend upon the overflow; but conditions are different here. The water follows along the bed rock, and in this case it is 80 feet from the surface. A well was first sunk—they call it a shaft here—then a tunnel is cut across the river upon the bed-rock, and a dam the whole length of the tunnel. Of course, the river is dammed, and there are no signs of it upon the surface.

The first bee-ranch we encountered was near the pumping plant, and is owned by Clarence A. Hoag. Clarence said he had kept bees several years; and while he had been living a bachelor's life he had experienced very good luck, and much quiet and happiness; but he was married a few years ago, and somehow since that time dry seasons had been the order; and to keep his family alive he had to rustle into other work, and was then working in that tunnel, eighty feet under ground, on the night shift. He looked somewhat sad and dilapidated, and I could imagine how he would yearn for those bachelor days, when his wife would arouse him in the night and say, "Clarence, dear, it is time for you to rustle into that hole in the ground." But, a-lack-a-day! bachelor bee-keepers have not much peace of mind

themselves during these dry seasons. Mr. Hoag had lost quite a number of his colonies, and was evidently following the plan of allowing the fittest to survive. I suppose that, owing to the fact that there was no end of stones in the wash just below the apiary, there was a whole wheelbarrow load upon every hive.

Several miles up the canyon we struck another bee-man. Mr. Porter had lived in the canyon 25 years; had usually secured 8 tons of honey every year from his 100 colonies; but for the past five years he had taken nothing; and during the past two years he had lost three-fourths of his bees, and was still losing. Mr. Porter did not seem to be anxious to talk about his bees, and he was, perhaps, excusable under the circumstances; but he had one thing on his ranch that he could brag about, and that was a fine spring of water.

"Say, gentlemen," said he, "go right down over the river bank and you will find the best water you ever drank. It is better than all the beer in Los Angeles."

I agreed with him promptly there, even before I drank the water; for any kind of water is better than beer. Mr. Brodbeck is getting to be quite a temperance man too. Of course, I suppose he always favored temperance; but to tempt him I offered to treat at every saloon we passed upon the trip; but he stead-



A HOLD-UP.

ily refused, and even hinted that he would vote the Prohibition ticket next fall. No fleas on Bro. Brodbeck that time, sure.

The San Gabriel Canyon has the worst road in seven counties. It is very well to have a road paved with stones; but when they are boulders of various sizes, the frolicsome way a wagon jolts along is extremely irksome, and I

preferred to shank it. Toward the conclusion of our journey we fell in with a camping-party which included several young ladies, and all, except the driver, were shanking it too; and while the wagons had to follow the windings of the stream, and jounce over stones, we could shank it across the points, pick button-hole bouquets, and admire the grand scenery.

The ladies and I were admiring the beautiful blossoms on a bull-thistle when Bro. Brodbeck hove in sight. He swung both arms, and shouted, "Say, Rambler! say! come over here—do! I'm awful tired of this rough riding. Won't you drive, Rambler? do drive."

"No, Bro. Brodbeck," said I, firmly, "I am fortunately, just now, otherwise engaged; then there is quite an amount of malaria floating through this underbrush, and I must insist upon your avoiding it. Cling to the wagon. So long!" and we all disappeared again across another point; but how lonesome Brodbeck appeared, jouncing over the boulders, while I was with the gypsy hats and the gay ribbons!

I never thought I should really enjoy a hold-up. There have been so many of them in Arizona that I have been a little timid when traveling in lonely places lest some of these gentry from the aforesaid State might pounce upon me; but thus far I have escaped them; and now to be held up by a couple of ladies!

We had to cross the river quite a number of times; and the further up the canyon we traveled, the larger the stream. At first it was stepping-stones, and now it was logs upon which we crossed, and it was here that the hold-ups occurred; and they were of such a pleasant nature that I illustrate. If all hold-ups were of such a pleasant nature as this I am sure no one would seriously object to them. I am greatly pleased that I saved Mr. Brodbeck from having the experience.

HONEY AS A DAILY FOOD.

Sugar as a Food and as a Dietary; Cane Sugar vs. Honey.

BY ANTON LEISTER.

It is well known that cane sugar has a very decided value as a food, aside from its use as a condiment. It is said that negroes on the Louisiana sugar-plantations, living largely on the sugar cane, thrive and grow fat, though subjected to the hardest kind of labor. Any one by trial will soon be convinced that sugar has a high nutritive value, when properly used.

Since honey is only another kind of sugar, a kind (grape sugar) that is in a much better form for digestion and assimilation, why should it not be true of honey, too, even in a higher degree, that it has a high value as a food, and that it can take the place of meat, butter, and the like, in a dietary? I believe that it is true, and that honey has a high food value. Here are my reasons:

Two years ago, when the finest white-clover honey was selling for 6 cts. per lb., I bought it by the gallon and used it freely every day for six months. I used as much as 16 ounces some days, and on an average, week in week out, ate one third of a pound per day, with the following results:

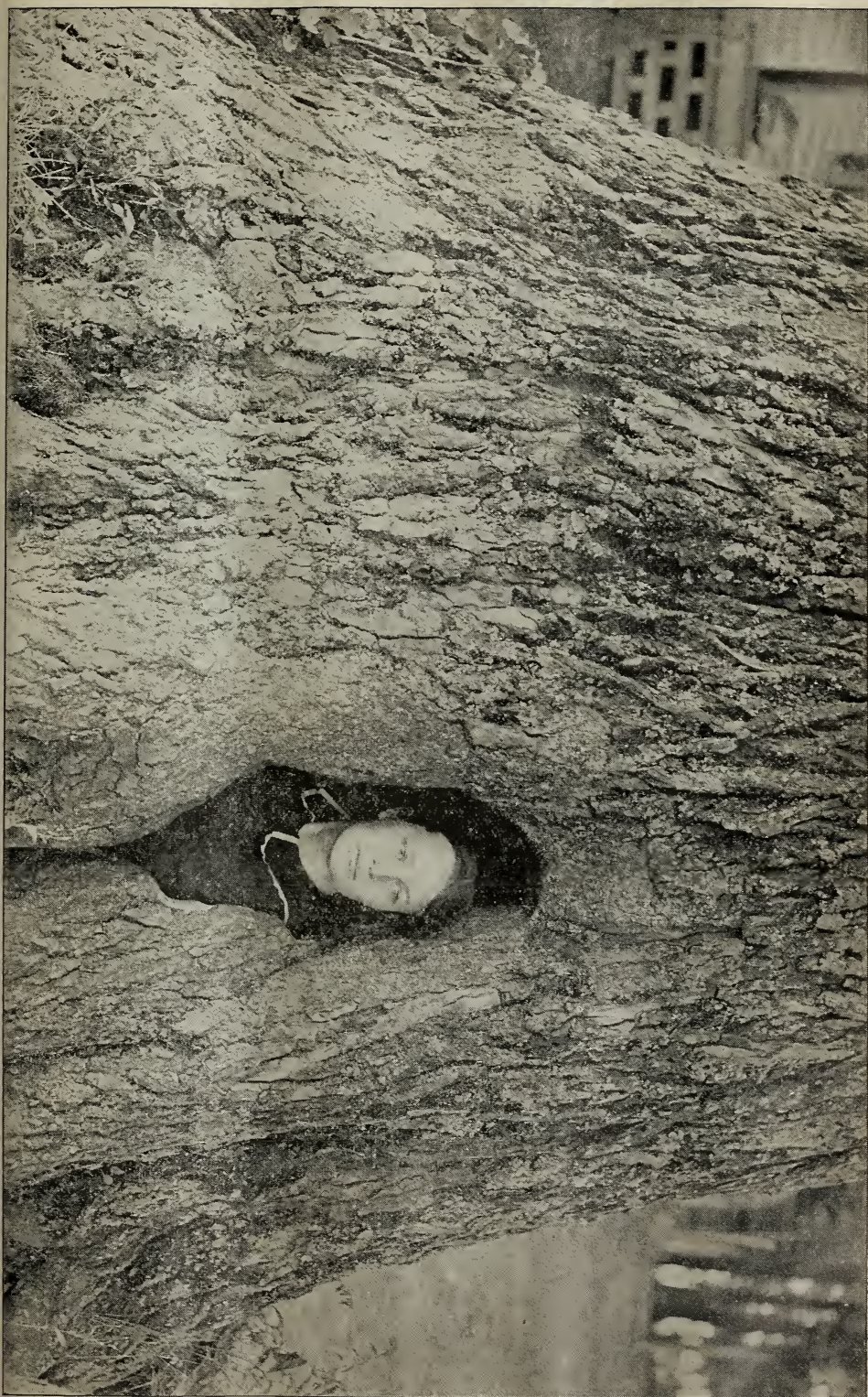
In only one or two instances did I experience any bad effects from eating honey in any desired quantity at a time. In these instances the honey caused vomiting, which was due, however, not to the honey, but to the fact of eating when very hungry and very tired, and before having rested. A meal of beefsteak under these conditions would most likely have produced the same effect. As it was, the honey in these rare instances had a remarkable advantage over other foods, for it was rejected in half an hour or an hour, unchanged by fermentation and souring, while other foods would have thus changed in a very short time, and to a very disagreeable extent. Though an unpleasant fact to speak of, I mention it because it throws a strong light on the hygienic value of honey.

But when I say that, with the above trifling exceptions, I ate from five to fifteen ounces of honey per day for months, with a saving of money, and with excellent hygienic results, it is necessary to call the especial attention of the reader to the conditions under which this was done.

The honey was not eaten with hot biscuit and butter, nor was it eaten to "top off" a square meal of all kinds of other substantials. But I had (and still have) bread made from "whole wheat flour," and on this alone, dark, dry, and hard, together with the honey, I made a meal once or twice a day, eating other foods for the remaining meal to secure the necessary variety.

This way of making the honey a main part of the meal, and not a mere relish, a tickler, and spur for the sated appetite, is a very important point; for honey, as usually eaten, a relish after the main part of the meal, is likely to be injurious because of its richness in nutritive elements. But right here let not the reader suppose that, after a breakfast on dry bread and honey, I sat in the house until the next meal time, doing nothing; for my work might be sawing and splitting wood in the woods, alongside of some hearty, well-fed man. It might be a walk of fifteen miles in a blizzard; or it might be pitching hay in a July sun, or sometimes it might even be a tour of five or six hours with the pen; and to the credit of the honey and the bread, and the method, be it said that they never failed to enable me to do or to endure as much as and more than able-bodied men of my age who used the diet that is usually supposed to be indispensable to health, strength, and happiness. Be it understood, of course, that I do not mean to say that I used honey and bread only, to the exclusion of all other foods. Bread and honey was more than half of my daily food for months, and at least once a day it formed the entire meal.

Another point in this use of honey, a point which I regard very important, was that five-



sixths of the honey I used was granulated, or candied. I will use no other; and when I can not get the candied honey I generally stop the use of honey altogether. I believe candied honey is more ripened, more digestible, much better tasting, much less likely to cloy the appetite, and much neater to use, than the liquid

succeed in convincing customers that honey at 6 to 8 cts. per lb. is a far cheaper and better food than beef and butter at the usual prices. Brunswick, Ohio.

[Mr. Leister is personally known to me, and often comes into our office to talk honey.

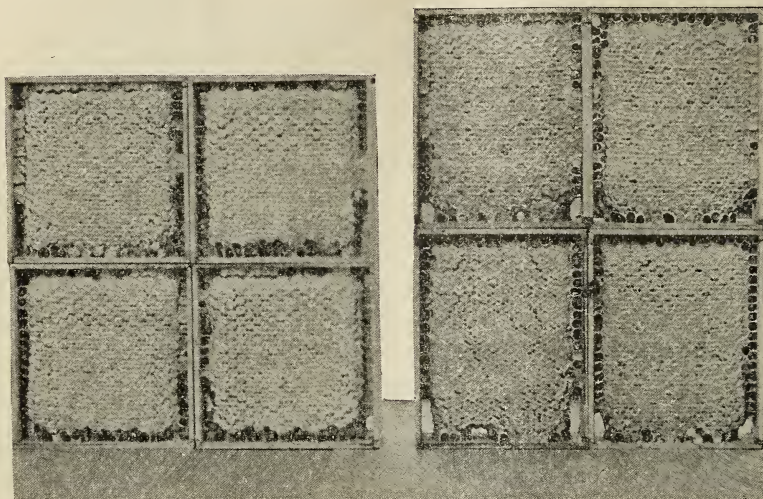


FIG. 1.—SAME WEIGHT OF HONEY IN SQUARE AND TALL SECTIONS. SEE EDITORIALS.

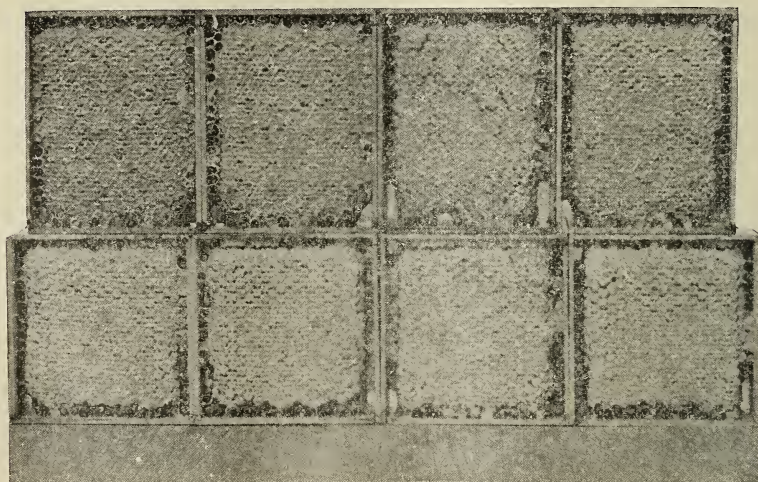


FIG. 2.—SAME WEIGHT OF HONEY IN SQUARE AND TALL SECTIONS. SEE EDITORIALS.

honey. I believe that, instead of seeking methods to prevent honey from granulating, prizes should be offered for the best and quickest method of securing this change.

If bee-keepers will carefully inquire into this matter of the dietetic value of honey, and its proper use, they may find a need for much more honey in their own homes, and they may

Some two years ago he told me he was going to test honey as a food—that he had already tried it to a limited extent, and with very beneficial results. I told him we should be glad to have him give the result of his experience, and here it is.

At the Philadelphia convention, Prof. H. W. Wiley, U. S. Chemist of the Department of

Agriculture, Washington, D. C., gave special emphasis to the fact that all sugars are a real food, going to make, under certain conditions, bone, fat, and muscle; but he added that, honey being specially prepared by the bees, it was more fit for human consumption than any other sweet known. This statement is backed by Prof. A. J. Cook, now of Pomona College, Cal.; also by Dr. J. H. Kellogg, of Battle Creek, Mich. Besides these there are numerous other authorities that can be produced to prove the same statement. Dr. Kellogg, it will be remembered, was once very much opposed to the use of honey as a food; but in later years his observations have led him to change his mind, and now he very frankly admits it, and positively says that honey is the most easily assimilated of any of the sweets on the market. Mr. Leister, while a college graduate, and possibly able to look into this subject from a scientific standpoint, has taken up the matter in a practical way, that is, from the position of one who has made a large use of honey in his regular dietary, and his statement is abundantly verified by the experience of E. E. Hasty, of Richards, O.; by the Rev. E. T. Abbott, of St. Joseph, Mo.; by Dr. A. B. Mason—yes, by scores and scores of others who might be named if we needed proof. While bee keepers generally believe all this, they do not, as they might, emphasize these matters to the grocery trade and to the consumers. Just let those who are dyspeptic or who for any reason have weak powers of assimilation, and yet who are very fond of sweets, thoroughly understand that well-ripened honey is probably something they can eat with impunity, and we shall not only find an increased consumption of honey, but a stronger and healthier class of people.—Ed.]

DOOLITTLE CELL-BUILDING.

The Advantage of Starting Doolittle Cell-cups in Queenless Colonies, and Having the Same Completed Finally in the Upper Story of Colonies with Good Queens.

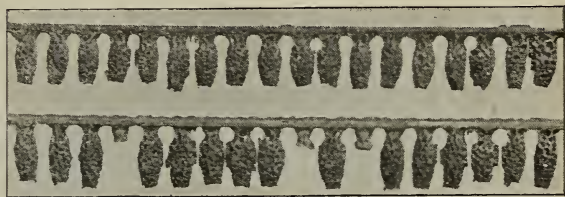
BY W. H. PRIDGEN.

I have noticed the remarks in GLEANINGS about your present success in having cells built; and to bring about a little rivalry between your queen-breeder and myself, unless I am already beaten, I send you some sample cells from which the queens have emerged. To form a correct idea, they should, of course, be compared with some of his in like condition. One set is not larger than the average; but the beauty of it is, all I send were accepted by the same bees at the same time. The complete batch was built by black bees over a young queen, while the others were built over an old three banded queen mated with a golden drone. The cups for each batch were all dipped at once instead of one at a time. The comb from which the larvæ were transferred was given to bees without unsealed brood

June 21, at which time not more than half a dozen larvæ with food around them could be seen. The next day a good-sized patch of larvæ was floating in the milk, so that, in shaving the comb down, many larvæ were shaven out. In fact, there seemed to be about half a drop in each cell, while the larvæ could rarely be seen, and the oldest could not be transferred by my method.

About 10 A. M., June 22, I prepared the bees to accept the cups by shaking them from an upper story (over an excluder) off from combs containing brood in all stages, into a hive containing combs of pollen and unsealed honey, and placed a screen at the entrance, so that no bees could escape. About 3 P. M., the same day, the prepared cups were given, and the bees kept screened in until the next morning, at which time the bees were returned to the hive whence they came, one batch of cells given to them to complete, and the other given to another colony.

June 29 the cells were but in nurseries as shown in last August *Review*, and the operations repeated in starting more. With the exception that the larvæ were not fed by queenless bees before transferring, and while all the



cups given (36) were accepted, the cells this time are not quite so large. The larvæ in the first case were certainly not one day old; and by the time they were 3 days old the cells were about as long as the queens left them when they cut out. I can not get fine cells or queens when larvæ much over one day old are used, because they are old enough to seal before the bees have time to feed them sufficiently to get them far from the top, and the cell is sealed with the larva about a bee's length from the tip.

I know I have to differ with Dr. Miller in a very modest way; but if he thinks that, because a larva is accepted in a Doolittle cup, it is always fed from the start as a queen should be, he is simply mistaken. I have had them accepted, and perfect workers reared. Neither can one get as good queens from three day-old larvæ. My best emerge in 11½ to 12 days. Shaking the bees from the combs has much to do with preparing them to accept cups, and then not wait too long before they are given. I want to give my cups to bees just "crying" for a queen for about 24 hours, and then have them completed in a hive containing a laying queen. The anxiety for a queen wears off with queenless bees before the cells are completed; but those just made queenless are much better at giving them the send-off and shaping-up of the cells. For the first day, queenless bees will feed the larvæ as much,

and build the cells as long, as those over an excluder will in two days; but then they begin to lose their vim, and those over the excluder will beat them out all hollow on the home stretch. Bees will properly care for cells begun aright, that will not give them the necessary attention at first. A batch may be given where there is indifference on the part of the bees in accepting the cups, with the larvæ all the same age; and although the majority of them may eventually be accepted, there will be from two to sometimes three days' difference in the emerging of the queens, with marked inferiority all along the delay, the last to emerge being worthless, showing that those that get the best attention from the start are superior in every way. "The proof of the pudding is in tasting." Why doesn't every one try these things for himself, and quit talking about using larvæ three days old in queen-rearing?

equally good results. Pure Italians are the poorest cell-builders of any bees. The best are the Holy-Lands; then come the Cyprians, blacks, and hybrids.—ED.]

A VISIT TO THE A. I. ROOT ESTABLISHMENT.

The Improvements that have been Inaugurated in the Various Departments.

BY R. F. HOLTERMANN.

Circumstances have prevented me for years from contributing any thing to the United States bee-journals. To be free to write upon any subject, and wherever opportunity appears to offer, is a privilege that only those who have been deprived of it can appreciate. Nothing in connection with his calling is of greater practical importance to the bee-keep-



APIARY OF VERNON BURT, MALLET CREEK, O.—SEE EDITORIALS.

A few of the queens emerged from the cells July 3, and the rest yesterday (July 4). All are fine, with hardly any difference in size. Creek, N. C., July 5.

[We shall have to acknowledge, Mr. Pridgen, that you have rather x cell-ed us in cell-building as well as in the making of cell-cups themselves in a more wholesale way; and I suspect there may be a good deal of truth in what you say regarding the starting of these cups first in colonies recently queenless, after which removing them to the upper story of normal colonies.

The engraving on previous page is taken from a photo we made of the cells that Mr. Pridgen sent us. Our experience has been, however, that we got better results by giving only about a dozen cups at a time; but if black colonies are used, there is no doubt that 18 or 20 cell-cups can be given at once with

er than to know where he can secure goods in connection with his business, and be able to purchase a design thoroughly up to date, of good quality and workmanship.

It has been my good fortune for years to visit once a year or oftener the manufacturing establishment of The A. I. Root Co., Medina, Ohio; and in those visits the kindly spirit in which I have been received and shown through the factory, and the way in which I have had the different processes of manufacturing explained, have been to me a source of real pleasure as well as solid profit and instruction. But that is not all. I have been struck with the remarkable progress the company has made from year to year. From visit to visit I have noticed changes which one would think had resulted in perfection in a department, only to find, in a later visit, that still higher attainments had been reached.

Although perhaps better posted as to the

development of bee-keeping in Canada through business and months of work in winter for the government at farmers' institutes, lecturing on bee keeping through the country in Canada, and although I have, time and again, been at bee-conventions in the United States, not only the International Bee-keepers' Association, now the United States Bee-keepers' Union, yet of the development of bee-keeping in the United States I know but little.

To visit the Root establishment from year to year I was, however, struck with the remarkable development of the business. It may not be due to the development of the business of bee-keeping in the United States, or in part owing to this development. I have, however, no doubt it is due to the excellent quality, workmanship, and design of the goods turned out, leading to the securing of more home trade. Then, too, the improvements which I have noted must lead to ever increasing foreign trade; and that this is actually the case I know from the class of goods which I have seen made.

Taking some of the leading departments I was particularly struck with the improvements made in the manufacture of comb foundation. If the firm will pardon me for frank criticism, when first I saw this department some five years ago there was nothing in it which interested and instructed me; in fact, I had seen better. With the adoption of the Weed process of comb foundation, however, there was a revolution; and although I have been over many times since, I believe that, without exception, each time there has been marked improvement in the method of manufacture, and a corresponding degree of excellence in the quality of the manufactured article. Every detail is looked into most carefully, from the crude wax in all shapes and colors, to the neatly boxed and papered comb foundation ready for the section or frame as the case may be. At some future time I may have something to say about the value of full sheets of foundation for sections, extracting-frames, and frames in the brood-chamber.

The next most striking feature was, in my estimation, the section-making department. During my last visit, I understand carloads were being made for export trade. Only those who have had some insight into the many difficulties connected with the manufacture of this line can appreciate the way in which these sections are turned out complete, white, without a particle of roughness, and folding with the least amount of breakage. As basswood becomes scarcer and scarcer, and sections go up, as they must, in price, surely bee-keepers before long will be compelled to get some substitute. What shall it be? or will they have to go back to the four-piece sections?

During my last visit it was my good fortune to see some very expensive machinery in operation, recently put in for the manufacture of hives. With the most suitable machinery, and buying lumber in cargo lots, we can readily understand how the best workmanship and material can be supplied for the money. Every good bee-keeper knows that the cheapest in

the end is to buy good goods; the original cost is a secondary matter so long as the article is right, and many of us know that the best goods can not be sold for the least money; but as to prices, I have made no comparison. I have said nothing of many other departments, such as honey-extractors, smokers, comb-foundation machines, etc. These I must pass over for lack of space; but there are two other departments which I believe deserve special mention. First, the bees. I visited only the home apiary; but here in August the bees appeared to be quite busy working on sweet clover. I was surprised. At my home, Brantford, the bees have never done much on it. I do not know how much the bees directly contribute to the financial success of the business; but any one can readily see that a firm having hundreds of colonies of bees, and using the various appliances they make, is likely to have more practical appliances; and such an apiary or apiaries would, indirectly, be of great benefit to the bee-keeping customers of such a firm. Of course, there will be differences of opinion as to the way in which hives, etc., should be made; but on the whole the effect of practical experience must be very wholesome.

The printing department speaks for itself. I am anxious to see the new edition of the A B C, which was in process of development when I was there. I understand it will have many important changes; and, like the evolution of the bicycle, to be up to the times we shall have to purchase a new and sell the old to some one beginning, and who can learn much out of the old copy.

GLEANINGS is well known, and speaks for itself to its readers. I suppose there is no reader who would indorse every thing said by the editor. As long as the human mind thinks at all for itself it can come across no other human mind which will think just as it does; but we can indorse in a general way; and from the large circulation the paper has, and the steady progress it has made (I have its numbers from the beginning) it must have many warm friends.

About liquor and tobacco, the Roots and I will never quarrel. I believe friend Root could benefit many physically were he to urge the abandonment of drinking strong tea, or, for that matter, tea-drinking altogether, and especially for growing children.

Brantford, Canada, Sept. 25.

[It would hardly be proper for us to say much in a footnote, any more than that we thoroughly appreciate all the kind things that the former editor of a bee-journal and a manufacturer of bee-keepers' supplies has seen fit to say in regard to the machinery, equipment, and work of The A. I. Root Co. Mr. Holtermann has visited us a number of times, and certainly is in position to know whether we have made progress or not.—ED.]

S. W. B., Ind.—We usually figure on about 20 or 25 lbs. of stores for outdoor colonies, and 12 lbs. for those wintered in the cellar or other winter repository.

CALIFORNIA ECHOES

BY J. H. MARTIN.

When the price of honey drops to a low figure it is extremely hard to put the price back to its former place—witness the market reports. Now that there is a short crop all over the country, prices will necessarily be forced up. Is there not some way whereby they will be prevented from falling to such a low figure again?

This from an eastern paper: "The lawn-mower is hardly in working trim before the cobwebs have to be dusted off the snow-shovel; still, there is no use kicking; it will all be the same by and by." Why, man, it is all the same now. All you have to do is to come to California. Here the lawn-mower runs all the year round, and there are no snow-shovels.

California is now rejoicing over the first rain of the season. About an inch and a half has fallen, and it has blessed the entire State. There is usually a light rainfall in October, but the present rain is more abundant than for several years thus early. For six years the rainfall has been below normal. We have reasonable expectations that the rainfall will be abundant this time.

At the Philadelphia convention, Doolittle and Whitcomb object to Coggs's plan of allowing bees to enter a house and clean the extracting-combs—too much annoyance. Why, brethren, don't you know that is just what Coggs lives on? and the more annoyance the better. Then the fun of it is that, when the honey season is over, Bro. Coggs hies himself away to a sanitarium to recuperate.

There is a great question agitating my thinking-garret just now, and all owing to the editorial talk about \$100 queens. The problem is this: How can I get a hundred-dollar queen into each of my 100 colonies, and then how can I sell the hundred colonies at one hundred dollars each? I am sure I could throw in a few valuable articles with each colony. Any way, such a sale would come in handy after two dry seasons—equal to a gold-mine, hey?

Under editorials on page 724 I find that some one objects to plain sections on account of their being too well filled. Who is to decide that matter—the producer or the consumer of the honey? I have an idea that the consumer will select the *too well* filled section every time. Under the same heading are the bees with drone heads. When you breed from those queens you have ordered, will you be particular to have the young queens mate with drones akin?

I have just discovered two fine honey-plants, both vines of vigorous growth, and both good for covering screens, rocks, and old buildings. The bees work at a lively pace upon "rosa de montana," recently introduced from Guatemala. It blossoms but once a year, and that

once lasts six months. The other vine, a species of tocoma, or trumpet-flower, was recently brought from China. From blossom after blossom I squeezed from five to eight large drops of nectar, tasting much like sap from the maple; but, alas! our hopes of gain from that wonderful nectar-producer are barred by having tubes so long and so narrow that the bees can not enter them. If we could educate our bees to tear open the base of the tube they would find a veritable bonanza.



CARING FOR COMB HONEY AFTER TAKING THE SAME FROM THE HIVE.

Question.—Please tell us in your department in GLEANINGS if it will answer to take comb honey from the hive before all the cells are sealed up along the edges of the combs next the wood, and, if so, how is this unsealed honey prevented from running out of the cells in handling and during shipment? Also tell us something about moth-worms, or the larvæ of the wax-moth on comb honey in sections, and how they can be got rid of.

Answer.—I doubt whether there ever was a season since I have written about bees when I had so many inquiries about moth-worms and the care of comb honey as now; and from the letters received it would seem that, owing to the poor season, the larvæ of the wax-moth have been concentrated on the little obtained, thus being noticed more than in seasons of plenty. But, to the question:

The first requisite for caring for comb honey after taking it from the hives is a good warm room in which to store it. I use a room 7×10 feet, in the southwest corner of my shop, having the outside painted a dark color, so that the rays of the midday and afternoon sun will make it as warm as possible. Some use an upstairs room, which is still better, and which will generally be warm enough without any pains being taken with it, especially if this room is under the south roof of the building, with no partition between the roof and the room. The only objection that can be brought against such an upper room is the amount of heavy work required in lugging the honey up and down the stairs. Where an elevator can be used, it is just the thing. As a body of honey once thoroughly warmed will hold the heat for a long time, the average temperature of such a room will be pretty high, ranging from 80 to 100° most of the time, thus ripening the honey splendidly. The object of this is to have the honey growing better and better, instead of poorer, from the moment it leaves the hives, and have the honey in those unsealed cells, where there happens to be any, around the outside of the section next to the wood (which is spoken of above) grow so thick that it will equal any in the section.

Ofttimes it is better not to wait until these unsealed cells next the wood of the sections are all sealed over, as to wait for them to be so is often a great waste of time, especially for those near the outside of the surplus arrangement. When the honey is taken from the hive, that in the unsealed cells is so thin that, if the sections are held so the mouths of the cells are down, it will leak or run out badly; but by leaving it in a warm room as above for three weeks or a month it can be handled as you please, tipping it over, etc., and not a drop of honey can be shaken out; and if, after it gets to market, it is stored in a damp cool place, it will be some time before it will take on moisture enough to affect it to any great extent. Perhaps all will not agree with me; but I think that all comb honey should be stored in such a room at least a month before crating or sending to market, to ripen, or "sweat out," as it is most usually termed. I know that it is a saving of time and labor to crate it at once; but I think it pays for all of this extra time and labor, in the better quality and appearance of our product.

Having the honey placed in a warm room, the next thing that will need our attention will likely be the larvæ of the wax-moth, as spoken of by our questioner. After the honey has been away from the bees for about ten days, where placed in a warm room as is here given, if we inspect the cappings of the honey closely we can detect little places of white dust, resembling flour, upon the surface of the comb, and usually most abundant near the bottom of the section. Although this place resembling flour may not be larger around than a fine needle, still it tells us for certain that a tiny worm of the wax-moth is there, and that, unless its death comes about in some way, while in this tiny state, it will destroy more or less of the nice white comb which encases the honey. While in one of our cities a number of years ago I saw sections of honey which had worms on them from $\frac{3}{4}$ to $1\frac{1}{4}$ inches long, and nearly as large around as a slate pencil, which had nearly denuded the honey of its nice white cappings, thus making it an object of loathing rather than of attraction, the same caused by the producer not knowing how to detect the first appearance of the worms, or being too shiftless to kill them after he had found them; or, perhaps, being in too big a hurry to rush his honey to market, instead of ripening it as advised above.

If, after several examinations, you fail to find such little white flour-like places you may well be glad, for it is no small task to keep the worms from honey during the latter part of the summer and fall, where they are as plentiful as they were in this locality twenty to thirty years ago.

If you should find these flour-like places, the next thing is to sulphur the honey. To do this best, the honey should be stored on a platform raised a foot or more from the floor, and built of narrow scantling so placed as to form a sort of open net-work, this allowing the fumes from the sulphur to freely circulate all through the honey piled on the same. Hav-

ing all in readiness, put some ashes in an old kettle, so that there will be no danger from fire resulting from the heat from the coals which are to be placed therein. Take the kettle of coals to the room, and pour sulphur (which has been previously weighed) on the coals, to the amount of $\frac{1}{4}$ lb. to every 75 cubic feet contained in the room, when the kettle is pushed under the pile of honey, and the room closed. Leave it thus closed for from twelve to fifteen minutes, when it should be opened to let the smoke out; for if allowed to settle on the combs, it will give them a greenish tint.

Just how the eggs get into the surplus apartment of the hives is not known; but it is supposed they are carried there on the feet of the bees. All combs having pollen in them are more subject to the moth than are those having no pollen in them; therefore those sections having any pollen in them should be kept separate from the main crop of honey. If more honey is put into the room later on, each lot so put in should be sulphured in about a week or ten days after putting in.

Only as we put our honey upon the market in the best possible shape can we expect to secure the highest prices for it, or expect that the price will be kept at paying figures; and the person who knows how to put his honey on the market in the most marketable shape will not be the one to bring down the market price by underselling his neighbor, either, as do those who pay no attention to this matter.



SQUARE CANS, KEGS, AND WOOD-FIBER PACKAGES FOR HOLDING EXTRACTED HONEY.

I can not help making a reply to your footnote, page 643, in which you inform me that square tin cans have honey-gates. Why, I am not as ignorant as I seem. I think I have read GLEANINGS over 20 years, besides other bee-papers, and catalogs. I know there are honey-gates, and I have used them. I also know that you have a bung-hole strainer you send out with your extractors. If one is dealing in sweetened water, either may do; but for honey I would class your honey-gates on a level with your cheese cloth strainer. A man would have to have a lease on life for about 999 years in order to draw or strain a few gallons of honey. Then the honey-gate does not protect the tin can from leaking while in transit. Another objection to the use of tin for honey, which I failed to mention in my article, is that, unless the can be thoroughly cleaned and dried as soon as empty, the little honey left in it will turn black and leave a peculiar scent in the can that I never could get rid of afterward. If you would put a vent-plug on the opposite corner of the honey-gate on the cans it would expedite the drawing of honey from the cans, but would, of

course, make two places for leakage instead of one.

You say that tin cans are far ahead of the leaky wooden things, to your notion. That is not answering my plea for a wood-fiber or paper keg, which has no staves, no hoops, but could be made all in one piece—no shrinkage, no swelling, presenting nothing but a clean smooth surface which no acid can touch.

I also know the way you describe will make a honey-tumbler proof against leakage; but does it make it proof against breaking the tumbler in opening? I wish you would give the wood-fiber or paper package, either in keg or square-can form, your second thought. I should like to see them put on the market. This package would suit any climate, and there is none more able to make the experiment of introducing them than The A. I. Root Co.

THE AMERICAN TRAMP.

[Perhaps the kegs are more convenient for you at your end of the line; but our experience is that nearly all kegs and barrels of honey, by the time they get to Medina, are leaking slightly, and some of them badly. Our honey-man, Mr. Boyden, is completely disgusted with these wooden packages. On the other hand, he says honey in square cans holding 60 lbs., usually comes through in good order, and is much more convenient to sell again, because the packages are smaller, and the honey can be sold in large or small lots. This seems to be the experience of Mr. Geo. W. York, of the *American Bee Journal*.

So far as I know, we have never had a complaint of the little honey-gate that goes with the square cans. While the bung-hole strainer we send out may be inefficient for some localities, the cost is insignificant, and it can be thrown away, and something better used in its place; but in some of the large extracting-yards that I have visited, no strainers were used at all. The honey was run into large cans or barrels, and after it had stood a little while it was skimmed off at the top, after which it was drawn off from the bottom of the receptacle into the regular marketing-packages.

There is no doubt at all that kegs are much more convenient for the producer; but they are a great nuisance to the average *buyer*; and in many cases it is the producer who has to pay for the leakage. He in turn becomes disgusted with his honey-man, as he naturally thinks he has misrepresented.

With regard to the wood-fiber or paper kegs, we gladly join hands with you in these; but if you can find something that can compete in price with square tin cans or kegs you will do more than we can. We have had a good many samples of butter tubs and pails sent us, but they were too expensive.

Of course, there is always the permanent objection to glass packages, that they are not proof against breakage; but for the purpose of retailing there is nothing else quite so good as and nothing cheaper than the jelly-tumbler. The self-sealing glass packages are better, but they cost a good deal more.

We are always glad to get criticisms and

suggestions, and you may be sure that The A. I. Root Co. will do all in its power to introduce new and better devices. We shall be on the watch; and if we can find a paper or wood-fiber package such as you describe, and within the reach of bee-keepers, we will gladly bring it before our bee-keeping friends.—ED.]

COLOR SAMPLES FOR CLASSIFICATION OF HONEY.

Friend Root:—Reading your footnote to Dr. Miller's *Straw*, p. 674, in regard to color-cards for classifying honey, I am reminded of seeing, years ago, a little scientific toy in the semblance of a fish, which, when placed in the palm of the hand, would curl and twist from the heat and moisture of the hand. I was told, if I am not mistaken, that it was made from gelatin in sheet form. It was as thin as paper, and transparent. The color was a bright red. As I said, it is some years since I saw it, and I do not know where to get a sample to send you; but perhaps you know what I am referring to. Would not this material answer for color samples? The question is, whether the colors would fade in course of time.

It might be cut into squares of a size to go into an ordinary letter envelope. For mailing, it should be placed between two pieces of thick pasteboard to avoid injury from the postoffice-stamps. I see that our postmaster has a handle attached to his receiving-stamp, and strikes the back of each letter with a force that equals the blow from a hammer of the same weight. The gelatin sheets might be placed between two pieces of clear glass, to protect them from dust, etc. If gelatin won't answer, how would colored glass do?

WM. MUTH-RASMUSSEN.

Independence, Cal., Sept. 28.

[Your scheme of using some transparent substance like gelatine, properly colored, would represent more nearly the exact shade or color of the honey than any printer's ink on cardboard. But I suspect it would cost considerable to get gelatine properly colored to represent the various shades.

But there is one general objection to this whole scheme; and that is, that the colors of the various honeys vary according to the different localities. An exact shade that would answer for Ohio might not be at all practicable for New York.

A NOVEL MOTH-TRAP.

I have for years been fighting moths, and therefore never have any trouble with their getting into the hives and ruining colonies. A six-gallon lard-can, with some cider in it, is always kept in my apiary. I leave the can open during the night, and in the morning I put on the cover; and when coming there again in the evening to take off the cover I take my dead enemies out of the cider and leave the can open. This is repeated all the time, and I never have any trouble with moths getting into the hives, as all the moths and bugs come right for the cider, and, of course,

when they get into the cider they will never get out alive. I think this is the best and cheapest of all ways to get rid of all kinds of moths. Cotton-raisers should put out cider in their patches. Moths come a long distance for cider. If you have never tried it, do so, and you will find the first few mornings that your cider will be covered with moths, and from then on you will catch only a few every night. Sorghum cider, I think, is best.

UDO TOEPPERWEIN.

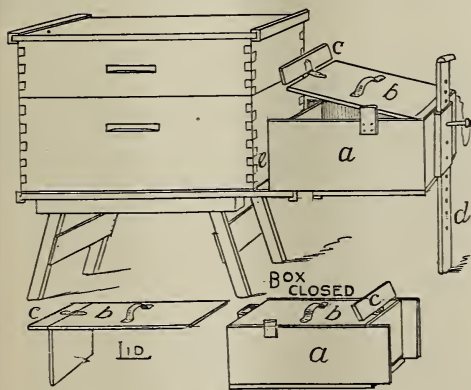
Leon Springs, Bexar Co., Tex., Oct. 3.

[As a general rule, when I see any description of some implement or device for catching moth-millers I pay but little attention to it, for, generally speaking, no *progressive* bee-keeper is troubled with them very much; and yet here is a simple little plan, where the moth are very plentiful, that may destroy large numbers of these pests.

Where bees are kept in box hives, and the bees are black, the moth-miller does trouble somewhat; but a sprinkling of Italian blood, or if the bees, even if black, are kept on movable frames, will put the bee-keeper in position to handle these enemies of the bees very easily. All combs when out of the hive, or away from the bees, should be shut up in moth-proof rooms or boxes. If either is where it can have freezing temperature or winter weather, both the eggs and the moth-miller will be destroyed.—ED.]

THE JONES HIVING-BOX.

I inclose a drawing of a hiving-box of my invention. You will see how the box rests on the entrance at E. At the other end of the



box at D is a stick with holes in it, running through a slot with a peg to hold it so as to raise or lower it to suit the bench. The box can be pushed up at E to fit the hive; and when the lid B is lowered the box is closed, with the exception of small lid C. Smoke bees between hive and box, and close lid C. Let them stand a minute; take off lid B, and brush bees to the entrance. They will go in, and never fight. I have managed my bees this way for two years, and never lost a swarm. Double them back as fast as they swarm.

The cleat F is to hold the lid on. I never

cut out queen-cells nor clip queens' wings. I have several hiving-boxes, and hive them as fast as the bees swarm, and double them back in the evening.

G. S. JONES.

Cusseta, Ga.

[Your hiving-box will, no doubt, do its work as you describe; but it is a great deal of rigging to accomplish something that can be brought about much more easily in another way. When hiving swarms in an eight frame hive it is our practice to put on an *empty* upper story. The cluster of bees is then held directly over this story, and given a sharp quick dump, when the cover is immediately clapped on. There is no crawling in at the entrance; the bees simply find their way down among the frames; and in the course of an hour or two the upper story may be taken off, and the cover put down on the brood-nest proper. I have illustrated your device, not because I think it is practical, but because I think our friends often go "clear around the bush" when they might just as well take a shorter course.—ED.]

THOSE DIRTY FEET; TRAVEL-STAIN, AND WHENCE IT COMES.

I see much in GLEANINGS concerning travel-stain, and concluded, if permitted, to give my experience of 17 years with it on comb honey.

A. J. Wright says, p. 574, that bees do not have dirty feet. He may be right in one sense of the word, but their feet and bodies are certainly dirty enough to soil and darken any thing they crawl over continually for a considerable time. Now, it is natural to suppose if any thing is continually rubbed over any thing, in time the same will be soiled. Friend Wright mentioned tacking any thing white over a board so arranged that the bees will pass over it. He says, if left through the whole honey-flow it will not be soiled. This is not my experience. I always find the entrances of hives soiled if a strong colony is in said hive for a few weeks, and the hive just above the entrance is always soiled where the bees alight. If friend W. had taken the sheet of paper he mentioned, and cleaned his hands just as clean as soap and water could make them, and gently passed his hands over the same for 30 minutes he would have found the paper very much discolored; and as for the bees washing themselves, this tickles me. Mr. Root, you just imagine yourself working in honey, etc., as the little fellows do; and when you have something very white to handle that you don't want to soil, say you would go through the same performance the bees do, do you think you would be clean enough for the performance? or say you were going to bed on your wife's nice clean sheets and pillows, don't you think there would be some pretty bedding after sleeping on them a few times?

I find the bees discolor the comb more while idle than when at work. This, I think, is because the bees, being idle, lie around and crawl over the combs; and, too, they are gathering old black wax and propolis, and little

bits of this get stuck to the cappings; and heat and bees crawling over it, the surface soon becomes discolored all over, and the heat causes the soft waxy propolis to penetrate the cappings the same as indelible ink will penetrate ivory.

Honey is a complete failure in this locality. I have had to buy sugar to feed my bees this year, the first time since I've been in the business.

J. K. HILL.

Uvalde, Texas.

ROYAL JELLY NOT AN ESSENTIAL FOR DRONE-CELL CUPS OR THE DOOLITTLE CUPS.

On page 602 Dr. Miller, in speaking of getting bees to accept drone-cells the same as the artificial cups, thinks the royal jelly and not the size of cup makes the difference. I have made many experiments, giving royal jelly to one batch of cells and another batch beside them without any; and if there is anything I am sure of about bee-keeping it is that it does not make one particle of difference whether you put in the royal jelly or not, either in artificial cups or drone cells. Any one who wishes to prove this can go and examine the cell-cups, as I have often done, two or three hours after putting in the royal jelly and the larvæ, and they will find the royal jelly licked out clean. I have examined them thus dozens of times, and never have found a single instance where the bees would leave the feed which I put into the cell. Even when every cell was accepted they have always removed the feed which I had put in, and then commenced to feed the larvæ to suit themselves.

About getting them accepted in colonies having a laying queen, I have had them accepted in upper stories, but it is very uncertain about the number they accept—generally very few; sometimes only one; so to make sure of getting enough I have them started in queenless hives. I can do this and still not have any queenless hives in the apiary. A few hours to half a day before giving the cells I remove the upper story from my cell-building colony, and place it on a bottom-board, then put a cover on the brood-chamber, and set it aside with entrance turned around; then the upper story is placed on the stand. Thus you see I have a colony made queenless ready to start the cells; then when the cells are well started, which will be in a few hours, the brood-chamber is put back on the stand; and the upper story, having the cells, is lifted off its bottom-board and placed back on the brood-chamber, having, of course, a queen-excluder between. I am surprised that Dr. Miller got them to accept worker cells. I never tried it.

W. C. GATHRIGHT.

Dona Ana, New Mexico.

R. S. H., Ala.—The greatest problem the bee-keepers of the South have to contend with is robbing and starvation. It is an actual fact that where bees can fly nearly every day through winter they require much more stores than in the North where it is very cold.



C. L. W., Iowa.—After the bees are once packed outdoors, better let them alone until along in the spring. Tinkering with them everlastingly through the winter will do more harm than good.

C. M. F., Pa.—Cakes of candy may be used as a winter food when nothing better can be had; but I should greatly prefer combs of sealed stores that have been reserved during summer and set aside for just such uses as this.

A. B. R., Mass.—As between sealed covers and absorbing cushions I do not know that I know which is the better. We have tried both for a period of several years. Some winters bees will do better under sealed covers, and in others the mortality will be less under absorbing cushions. Taking it all in all, I should prefer to have the cover sealed down by the bees, and then over it put some packing material, and then another cover to protect the packing.

J. G. M., Minn.—I would not try to winter indoors or in the cellar unless the temperature outside ranges near the zero-mark for six or eight weeks at a time. Where the winters are somewhat open, changing from a thaw to a week of cold weather, then back again to warm or stormy weather, during which the temperature ranges at freezing or above, I would by all means winter outdoors. When the temperature outdoors is above freezing it is very difficult to keep bees inside quiet.

E. W. P., Ill.—With the best winter repository that has ever been constructed, bees will fly out and die on the floor, and if they are not swept up, 75 or 100 colonies in a cellar 10 × 10 may furnish dead bees, before spring, sufficient to cover the floor an inch or two in depth. These are probably the superannuated bees; and if they were in hives on their summer stands they would fly out just the same; but as they would scatter over all outdoors they could not be found. For this reason some have thought that bees die more in cellars than outdoors.

C. F. F., Wis.—For small horse powers suitable for running a light buzz-saw for hive-making, there is probably nothing better than a small gasoline-engine of one or two horse size. The one advertised in this issue by the Pierce Engine Co. is well adapted to the purpose. Gasoline-engines are comparatively cheap now, and do not require an experienced engineer to run them. Indeed, they have practically displaced nearly all the small-horse-power steam-engines. For larger powers the steam-engine is both cheaper and more economical to run, because it can utilize any kind of fuel—wood, coal, and rubbish. Where there is enough bee-hive work to be done, the refuse under the boiler will furnish sufficient fuel to run the machinery.



LOOK out for our next issue. It will be a regular boomer in size and general subject-matter.

OUR readers' attention is directed to the very low clubbing offers we make elsewhere in this number. Don't fail to look them all over carefully, as we can save you money. In many cases we can furnish you some agricultural paper and GLEANINGS both for a whole year at the price of either alone. In other cases a slight advance on the price of one of them buys both of them.

REFORMED SPELLING.

WE are getting quite a number of responses or votes in favor of the shorter spelling in GLEANINGS. So far not a single dissenting vote has been received. Mr. M. D. Andes, of Bristol, Tenn., writes: "At first I was opposed to the changes; but after reading the *American Bee Journal* for a time I rather like it. I would approve of the changes suggested by N. E. A., on page 762." It looks now decidedly as if our subscribers would favor the changes suggested.

At present I do not think it would be wise for us to go so far as the *American Bee Journal* does, although in time we may see our way to go the whole figure. Considering the varied class of printing we are doing for other people, such a change would involve an endless lot of work in proof-reading, and doubtless many mistakes.

NEW YORK'S INSPECTOR OF FOUL BROOD.

OUR readers will remember that within a year a foul-brood law, modeled somewhat after the plan of the one that has accomplished such good results in Wisconsin, was enacted by the legislature of New York. It provides that, when a case of foul brood is discovered, complaint shall be made to the Commissioner of Agriculture, who shall thereupon appoint some person to go and inspect the bees, and, if diseased, provide for the necessary cure. But, unfortunately, this law was passed or amended, rather, after the commissioner had made out his estimate of the funds he would require in his department; and although foul brood is or has been found in some sections of New York, there are little or no funds available by which competent persons can be sent to make the necessary inspections and carry out the regulations provided by law.

Mr. N. D. West was appointed inspector, and has, I believe, at his own expense, with possibly some assistance from the State, been making inspections, and doing what he could to stay the ravages of the disease. He finds that some of what is thought to be foul brood is something else—a diseased or pickled brood. Specimens of this have been sent to the general government to be examined by the Bacteriologist in the Department of Agriculture; and other specimens have also been sent to Bacteriologist Dr. W. O. Howard, of Fort Worth, Texas, and in a short time we shall know just what this new disease is.

In the mean time it is to be regretted that there are not now funds by which a thorough canvass of the State can be made by competent persons to hunt up the disease and see that the law is enforced; for it provides that any bee-keeper having the disease in his apiary, who "shall sell, barter, or give away any honey, bees, or appliances from said diseased apiary, or expose other bees to the danger of said disease . . . contrary to this law" is "guilty of a misdemeanor, and shall be punished by a fine of not less than \$30 nor more than \$100, or by imprisonment."

In the mean time, the bee-keepers of any district that is troubled with this disease, or with any disease, should co-operate, and, if necessary, raise a fund so that the inspector can visit the locality and make those who are disinclined to obey the law come to time.

Later.—I have just received a letter from Bacteriologist Howard, of Texas, in which he says he has examined, microscopically, several specimens of affected brood sent from New York, and that none of them are foul brood, or in any way related to that disease. It is an entirely new malady, differing from pickled brood. Dr. Howard is not ready yet to make a complete report, but will do so later for GLEANINGS. In the mean time it is of the highest importance that the bee-keepers of New York State know the result of the experiments thus far, as it may save burning of colonies, and possibly of whole apiaries, for what is supposed to be foul brood, but which is not that disease at all. The fact that this new malady is in many cases reported to disappear of itself—a thing that real *Bacillus alvei* never does—rather confirms Dr. Howard's diagnosis. In the meantime bee-keepers of New York are to be congratulated that at least some of the affected brood is not the dreaded foul brood.

THE APIARY OF VERNON BURT; APPLE-TREES IDEAL SHADE FOR AN APIARY.

ON page 798 of this issue will be seen a half-tone from a photo of the Burt yard. Large old-fashioned apple-trees form the principal shade except where the apiary has grown so large as to crowd out beyond the delightful coolness under these trees. As Mr. Burt has all his queens' wings clipped he is not bothered by being obliged to climb these trees to get his swarms. As I have before explained, when a swarm does come forth he removes the brood-nest, places a hive with empty combs or foundation on the old stand, sets the super formerly on the old hive on the new one; lays the caged queen at the entrance, and goes about his work.

These large spreading trees, the limbs of which are scarcely six feet above the ground, form a most delightful shade—an ideal protection from the rays of the sun, according to my notion. Perhaps two dozen large trees protect very nearly a hundred of his colonies;

and whenever I go to visit Mr. Burt I find it very convenient to sit down on a hive, munch an apple, and talk bees. Many and many a time have we lain down in the shade, facing the entrance of some particular colony whose bees were rolling in the mellifluous sweetness—zip, zip—faster than one could count. It was on one of these occasions that I had impressed into me the great value of a wide and deep entrance, because I saw how the bees would make a swoop, and land clear to the middle of the bottom-board, and very often strike a cluster hanging down, without touching wood of any sort. In the same way with Dr. Miller at his home apiary I watched the incoming of the field-bees as they swooped through the wide entrances clear on to the cluster.

I never enjoyed working with the bees very much in the hot sun; indeed, I have thought they were very much crosser then than when there is a comfortable shade over them, and a good big wide entrance, so that a large proportion of the bees do not have to be wasting their time fanning in order to keep the brood-nest down to the requisite temperature: and did you ever think that small narrow entrances require more fanners—more workers *from* the field, if you please—than the wide ones? If you do not believe it, stop off at Medina some time during the honey-flow and we will take our bicycles and lie down under the shade of those large trees at the Burt yard.

IMPROVEMENTS FOR 1900.

Just now the members of the Root Co. are studying how they can improve certain of their standard supplies. Hives, supers, sections, etc., will be changed, but very little; in fact, they will be practically the same as last year. There will be a slight change in the construction of the cover and a new combined bottom and hive-stand, which will be appreciated by our friends. The Daisy foundation-fastener will be improved, and the solar wax-extractors will be changed enough so as to put the wax in marketable form as soon as it is melted by old Sol. The large honey-extractors, four and six frame, will have the main journal ball-bearing. But this will not be used on the smaller machines, as there would hardly be gain enough in the small size to warrant the expense.

SQUARE VS. TALL SECTIONS.

A good deal has been said in our columns in regard to the relative selling qualities of the square and tall sections. When I visited Mr. Vernon Burt once last summer I looked over the honey he produced, both in square and tall boxes. The sections were plain, and were separated off in the supers by fences. Indeed, all the conditions, so far as colonies, supers, and every thing else were concerned, were as nearly identical as they could be made.

It has been claimed, I believe, that tall boxes would be better filled than square ones, as if the mere matter of dimensions had something to do with the filling. While I never

challenged the statement, I could never really believe it; but on this particular occasion above referred to I took particular pains to note whether tall boxes were any better filled than the square ones. Selecting an average lot from different supers, not the best ones, I placed a row of four tall ones on top of a row of four square ones. In the illustrations produced elsewhere on page 786 it will be noticed that the filling is practically the same in both lots; and it is just exactly what any one of common sense might expect, for the conditions were as nearly identical as it is possible to make them.

But the reader will notice that I have the same lot of sections put up in two different ways. In Fig. 1, one lot is set *beside* the other; in Fig. 2 the tall ones are set *on top* of the square ones. In the last named the contrast is not particularly striking; but in the first mentioned, Fig. 1, the contrast is quite marked, for the tall boxes appear considerably larger, notwithstanding they hold no more honey in pounds and ounces than do the sections right beside them. If the sections are placed thus it is evident that the consumer would pay more for the tall boxes than he would for the others. The former look larger, and to a great many, outside of the question of bigness, they have a more pleasing proportion. Sometimes I think the square sections are fully as pretty as the others, and at other times I have the opposite notion; but after the honey is cut out and put on the plate, the square chunk is certainly more in keeping with the general proportion of the plate than the oblong one. If the tall section is more pleasing in appearance to the *average* consumer, then that is reason why it should bring as much or more money. There is no deception.

It is admitted that comb honey has been selling too low, even in the years of good supply. It is almost impossible to advance prices on the same article; but it *is* possible, by changing the form of the package, to secure a higher price. Then the old question arises: If the consumer has been paying too low a price for his honey, or, in other words, robbing the producer, is it right for the latter to *purposely* deceive him a little by making him *think* he is getting a larger value for the larger size of package? If we put the question in *exactly* that form, there can be only one answer; but that statement of the proposition is hardly a fair one. If there were no $4\frac{1}{4}$ sections produced, and the honey were in tall boxes exclusively, which is the case in some markets, then there is no fooling of consumer, and no robbing on either side. If, as I said, the tall section by itself is more pleasing, the consumer buys it because he wants it. Taking it all in all, one would be exceedingly unkind to declare that, because some one preferred and sold his honey in tall boxes, that person was robbing the consumer. There is such a thing as being finical, or overnice, in points of this kind. In straining at a gnat we might swallow a camel.

Our sales for the past season show that, in a few years at least, the tall sections will forge well to the front. That astute bee-keep-

er, Capt. Hetherington, who has been getting from one to two cents a pound above the market price, knows a good thing when he sees it; and it is the tall boxes he has been selling, and it is that box his customers will have. Alack the day when any one shall say that he or any one else who sells these boxes is not doing as he would be done by!

THE EXTERMINATION OF THE BASSWOOD; THE LARGEST LINDEN IN THE WORLD.

THE principal honey source of the northern part of this country is usually said to be white clover. The next in importance to that is basswood. These two honeys from these sources are so nearly alike in color and taste, to the average consumer, that all white honey, whether clover or basswood, is called white clover. But that there is a distinct difference, both in the flavor and color, to the *producer* is equally true.

These two sources, in the Northern States at least, have contributed mainly to the income of the bee-keeper. Take away both, bee-keeping as a business would scarcely be known in some of our Northern States. The clover-fields have been yielding to the inroads of civilization. Intensive agriculture now takes the place of many localities where once was white clover in the months of June and July. True it is, that immense quantities of clover honey are still produced annually in the United States—probably more than was produced in the earlier part of this decade—not that *each* bee-keeper produces more clover honey, but there are *more* who are utilizing isolated fields of clover that heretofore have wasted their "sweetness on the desert air."

If the clover has been slowly disappearing from certain sections of the country, much more rapid is the cleaning-out of the basswood, or linden, as it is called in some places—a tree that is especially valuable—yes, almost indispensable—to the bee keeper. Second in the source of honey, its lumber goes to make something like fifty millions of sections every year. The supply-manufacturer has been blamed for killing the goose that lays the golden egg. But the goose-killing was commenced first and carried on far more extensively by furniture-makers. Since there has been such a sharp advance in the price of lumber, especially of pine, basswood has been used by planing-mills for regular house-building purposes. It is still cheaper than pine; and contractors, in order to meet old figures, have been compelled to take a cheaper lumber, with the result that basswood has been taken. Some of the most extensive lumbermen say they can see in our northern forests only about ten years' more supply of this favorite timber. The basswood areas are getting to be more and more scarce, with the result that section-lumber will have in time to be of some other less desirable timber.

The problem is indeed a serious one. The States of New York, Pennsylvania, Michigan, Wisconsin, and Minnesota, that have produced such large quantities of basswood honey, will possibly in the future have to depend upon clover and other sources; and instead

of ranking among the leading States for honey, they may possibly in time drop down to second place.

Already supply-manufacturers are beginning to consider what material they will have to use for sections when basswood is gone,* or at least has advanced to such a price that it will be out of the question for section-box making. Mountain poplar has been suggested; but the trees are small, and very difficult to get. Pine could not be used, because the timber would hardly be tough enough to stand the V-groove right-angled bend in the one-piece section; and even if it would its price would place it where it could not be used for the purpose. There is a possibility that some time in the future we may have to content ourselves with the four-piece sections, for the timbers that will stand the V-groove bend are very limited; indeed, I do not know of any other kind than the basswood.

But perhaps you may ask why supply-manufacturers use this valuable timber when it is so much needed for honey. For the simple reason that the furniture-makers and planing-mills will use it if we do not. What care they for the bee-keeper who desires to produce honey?

THE GIANT BASSWOOD AT LINWOOD PARK.

Last summer a part of the "Rootville" folks, together with some friends, camped at Linwood Park. The name "Linwood" is quite suggestive of the fact that the park or grove must have quite a number of basswoods in it; but the name originated, not from these but from one giant tree of that kind that stands near one corner of the embankment of the shore of Lake Erie. This tree is a magnificent specimen—the largest basswood I have ever seen; and I doubt if there is a larger tree of its kind in the United States. I secured a photo of the lower part or trunk of the tree itself, and on page 785 will be found a half-tone reproduction of it. In the open is a young man of about 18, with his bathing-suit on. Inside of the tree there is a hollow space or room sufficient to take in a whole family of six or eight people. Indeed, the tree is eight feet in diameter, and its lofty branches tower above all other trees in the grove. I tried in vain to secure a photo of the tree as a whole. Although I used three different cameras the light was so poor that none of the pictures were entirely satisfactory; so I shall have to leave the reader to imagine its magnificent proportions after examining the engraving showing the trunk of the tree, in this issue.

Linwood Park, named after this particular tree, is situated about half a mile from Vermillion, on Lake Erie. If you will consult your map you will see that Vermillion is about 30 miles directly west of Cleveland, and about 25 miles from Kelley's Island, celebrated for its grapes. The park contains a large number of other basswoods; but none of them begin to approach the majestic size of the one whose trunk it is our pleasure to present in this issue.

* If Canada should be annexed, or the tariff on lumber abolished, the days of grace would be considerably extended.



Blessed are the pure in heart, for they shall see God.—MATT. 5:8

Keep thy heart with all diligence; for out of it are the issues of life.—PROV. 4:23.

A great many of my bicycle-trips are over toward the great city of Akron, Summit Co., O. I say *great* city, because Akron is a very much larger town than our own county-seat of Medina. Summit Co. adjoins ours on the east, so the distance is only about 20 miles between here and Akron. The Summit Co. Fair, held in Akron, is usually one of the last of the county fairs, and is held during the first week in October. As there are many potato-growers in Summit Co. I usually go over there to examine their very nice show of fine potatoes as well as fine apples.

There are some things about a county or state fair that I like, and there are other things that I do *not* like. I like every thing connected with the farm, and I like to visit with the farmers; but I dislike every thing on the fairground that would lead our boys away from the thought expressed in our little text. I am sure our friends will excuse me if I speak plainly, and touch upon some of the things that are not often mentioned in print. Several times in these Home Papers I have spoken about the provision that our fairgrounds afford for the personal health and personal comfort of those who attend our fairs. Convenient and comfortable closet arrangements on the fairgrounds, or for any like large gathering of people, is quite an important matter; and I am very glad to say that of late there seems to be general progress all around in this direction. It does not take much money to provide something that is both neat and tidy as well as convenient.

At the last Akron fair I happened to go into a closet almost the first thing when I alighted from my wheel and went on the grounds. I had just looked it over and had pronounced it well arranged, when four young boys came in. Now please, friends, excuse me again if I put right in print the words they used. We can not really combat an evil understandingly until we know all about it. One of the boys, without any provocation, and without any disposition to complain of any thing, said, as he stopped near me, "Jesus!" I glanced up quickly and perhaps somewhat reprovingly, although I did not say any thing. His companion noticed me, and evidently, to pain me still further, or perhaps just for sport, followed his companion by saying, "*Christ* Jesus!" Then the third one of the boys ejaculated, "Jesus, lover of my soul!" Then the fourth one put in, "Yes, Jesus, lover of my soul, come fly to my bosom." These boys were perhaps from fourteen to sixteen years old. They purposely and deliberately gave me a glimpse of the state of their young hearts. And, by the way, what a strange thing it is about blasphemy and obscenity, that they al-

most always go together! A part of community regard the name of Jesus as the most sacred and holy name that can be spoken. It is the dearest name to the devoted Christian that he knows, because it is the emblem of love, mercy, purity, and every thing that is good and holy. Now, can any one explain why men and boys who have a bad spirit in their hearts seem to have pride and delight in coarsely and rudely taking the name of Jesus in vain, and thus trample under foot, as it were, every thing sacred, pure, and holy?

We as American people fling aloft the stars and stripes as the emblem of our land of liberty; and our highest ideas of patriotism center about this American flag with its stars and stripes. Suppose somebody who feels ugly and bitter toward us should take it into his head to tear down this flag the people have raised, and should tear it to pieces and trample it in the mud. By this act he would give pain to every true American. I need not tell you what true Americans would *probably* do to him. Few men have ever lived who would dare to undertake such a thing; and yet the boy or man who, in a coarse and unfeeling way, takes the name of Jesus upon his foul lips does a thing which, to all Christian people, is not unlike the tearing down and casting into the mire the American flag. Why does *anybody* who claims to be decent or fair do such a thing, any way? Why did these young boys choose this means of showing off before a gray-headed stranger? Where did they come from? Where did they get that kind of education and bringing up? Did their mothers really know how they were behaving when away from home, and what thoughts and feelings were actuating their young minds?

Toward night I called at a home where I have visited a good many times within the last few years. A bright young boy (just about the age of those I have spoken of) gave me a welcome warm enough to assure me at least *one* member of the family was glad to see me. He and I have had a good many talks in times past, and I am a good deal interested in him and in his work. A short time after I arrived his mother said, with a bright smile on her face, "Mahlon united with the church two weeks ago last Sunday." And then Mahlon and I had another good talk. A young minister came to their parish last spring. He has been quite successful in getting hold of the young people in that neighborhood. He not only knows how to grow potatoes and how to shingle houses, but he can play ball and join in with the boys in all kinds of harmless and innocent games; and Mahlon says he is just about as nice a man as there is anywhere. A few minutes later it was my pleasure to take the young pastor by the hand, and have a little talk with him. Oh what a contrast between this young boy, with his heart full of every thing good and pure, and the four boys I have just mentioned meeting on the fairground! And what a contrast, too, between them and that bright educated young minister! Why, dear friends, it seemed to me as if nobody realized what a great gulf

yawned—at least spiritually yawned—between those boys ; and they were brought up, too, perhaps, in almost the same neighborhood. Will you excuse me if I go back a little ?

Three years ago Mahlon's father moved into that neighborhood. In their former home, either they had been too far from church, or for some reason or other, I think they did not attend church very much, although the mother was a church-member. The family had moved on to this new farm; and as their means were somewhat limited they were obliged to give a mortgage on it. I talked over the prospects with them, and suggested that they help lift the mortgage by growing potatoes. I told them where the best potato ground was, in my opinion; and as there were several nice springs on the farm I was a good deal interested in the farm as well as in the family. Near by is a very pretty little church, and I exhorted them rather vehemently, perhaps, to go to church and attend Sunday-school, and to get into the "harness" and to help work for the kingdom of God and his righteousness. I think I repeated my favorite text with considerable emphasis—"Seek ye first the kingdom of God and his righteousness, and all these things shall be added unto you." I told them that, if they took hold of God's work, and did their part, the great Father would take care of the mortgage.

At first there were some discouragements in the way of attending services regularly, and helping along in the work of righteousness. But by and by they began to reap their reward, as I was sure they would. In a little more than a year the father had united with the church, and was full of enthusiasm with regard to church work. Pretty soon he had a class in Sunday-school ; and the boy, in due course of time, followed the father. Why shouldn't he ? Although he is not quite sixteen years of age, he begins to banter his father playfully by saying he can do almost as much work as his father—that is, certain kinds of work. I do not know but he can pick up potatoes a little faster ; but perhaps he could not stand it right along as many hours in a day. The boy of sixteen ought not to be required or *permitted* to stand it like a man of thirty or forty. Perhaps I feel more interested in the boy because he is just about Huber's age. A boy of sixteen, full of energy and life for either play or work, whichever stands before him, is a beautiful sight to see, any way. There has been a good deal of talk about girls of that age—"sweet sixteen." But I begin to think I like to look a boy in the face when he just begins to look manly and talk *manly*, as much as I like to see these pretty, graceful young girls when they just begin to look *womanly*. There, I almost forgot to say that I love such boys, and love to look into their faces *when* their words and actions indicate they are pure in heart.

When Mahlon was telling me about their young minister, and what a nice man he was, I recognized at once that he loved the man because he himself was pure in heart. Our text says, "Blessed are the pure in heart, for they shall see God;" and Mahlon was just begin-

ning to get *glimpses* of the great Father, perhaps through the teachings of the young minister, and because he *is* pure in heart. His mother did not say she was proud of him; but, dear friends, young and old, how could any mother help being proud of the boy who unites with the church and gives his heart to God just as he begins to develop manliness and manly strength ?

But now, what about those other boys—those who took *delight* in letting me see the depravity and iniquity that were in their hearts, young as they were ? Where did they get that talk ? I told you Akron is a great city. I think there are between 65,000 and 70,000 people in it now. Akron boasts of the wonderful growth she has made ; of her water-powers, steam-powers, of her great manufactories, and of her mills; but I do not know whether Akron boasts of her 160 saloons or not. I have heard them mentioned frequently; but, come to think of it, I do not believe I ever heard anybody brag of the number of *saloons* they have there. And now we have come to the source of that foul talk. Those boys, young as they were, were growing up, either in the saloons or surrounded by saloon influences. Somebody asked recently why tobacco-venders decorate their packages with the most obscene pictures the law will permit; and also why the saloon-keepers are constantly furnishing the boys with pictures the law would *not* allow; but they take the precaution of passing them out to the boys on the sly. Yes, I have seen the pictures. I have gone into the saloons and found them on the counters. The saloon is in open *hostility* to the church ; and as the church holds up purity and godliness, the saloon constantly works for *impurity* and *unrighteousness*. The Anti-saloon League has done some work in the way of prosecuting law-breakers in Akron, but not very much comparatively. When 160 saloon-keepers are banded together, and have succeeded in getting the greater part of the police on their side, "what will the harvest be?" No wonder the boys learn to swear before they are sixteen. The Sunday-school and the Endeavor societies are doing a tremendous work to counteract these evil influences ; and every Christian man or woman who gets a boy away from the saloon and into the Sunday-school is doing a greater work than he knows of. But why are so many of our people *half-hearted* about all this ? Why do so many yawn and act sleepy when you ask them to go to church or Sunday-school ? Is this a time for sleeping ? Satan never sleeps. Perhaps the Sunday-school may be dull and uninteresting. Perhaps you do not *feel* like going ; but, dear me ! what has *feeling* got to do with it, anyhow ?

Yesterday some children were having a picnic. It was out in an old orchard. They had forgotten to bring any water along. Some of them started off with a pail, saying, "There is an old well over here, and I am sure we can get some water there." Then I remembered what I had many times heard of, that old unused wells are very likely to contain the germs of typhoid fever or diphtheria. I stopped the

children, but they started off again. Somebody said they were going to a farmhouse well near by. "But," said I, "are you sure the people who live there are using the water from that well?" Then somebody stated that the water got very bad in the spring, and they hadn't used it at all during the summer. If the children went there to that well and drank a great lot, thirsty as they were, before anybody stopped them, it might mean sickness for the whole crowd, and possibly death to one or more. Such things have happened more than once; in fact, we have been told, during this past season, of several cases of sickness and death just because a whole party of picnickers ate or drank something that contained contagion.* Now, suppose *your* children were in the act of drinking from one of these foul wells because they *were* children and did not know any better; would you be sleepy and dull, and plead as an excuse for doing nothing that you did not feel "interested" in the matter? Yet, my friends, the contagion these younger ones get from saloons and other like places is a *thousand times* worse than typhoid fever or diphtheria. Our country is shocked continually by stories of crime, murder, and suicide. These suicides that are so frequent are simply the harvesting of the crop that has been maturing through long years. The simple fact that the Sunday-school is right squarely opposed to the saloon business *ought* to be enough to make us all *interested, wideawake, and on our feet*, no matter whether we feel like it or not. There are many readers of GLEANINGS who, perhaps, do not agree with me in my ideas of the Bible or of the Christian religion; but who is there among you who would want to hear his boy take such words on his lips as I have mentioned in the fore part of this talk of mine, in the same spirit? Who would want to find out that his boy was a frequenter of saloons before he was sixteen years old? Who would not feel troubled and worried to know that this same boy had his mind full of vile thoughts, and that his boyish imagination was stirred into a flame by pictures that none but Satan's vile skill could ever paint? Drink, tobacco, and cigarettes follow along speedily nowadays; and while it used to take forty or fifty years to get a boy away from the Sunday-school and down to the suicide, now these new agencies do the work in half a dozen years, and every little while we hear of suicides, the direct consequence of these influences I have mentioned, before the boy is fairly of age.

* After the above was in type I found the following in the *Daily News and Herald*, of Cleveland:

"COLUMBUS, O., October 19.—At to-day's meeting of the State Board of Health, Secretary Probst reported that he found the typhoid-fever outbreak at Conneaut, in which there were ninety-four cases and twelve deaths, due to bad water taken from the lake by the local water company."

Now may the Lord be praised that we have a State Board of Health that hun's up the cause of such malignant outbreaks, and promptly applies the remedy; and may the time soon come when some officer of the law or servant of Almighty God shall in like manner ferret out and promptly abolish these cesspools of sin that not only corrupt the body but send to eternal ruin both body and soul.

Mahlon's parents are discussing the matter of his education. When he talked with me about it I told him it depended largely on what he expected to do for a living. I told him of Huber's decision; and with some reluctance he confided to me, or if he did not say it I gathered it from his conversation, that if he thought he could ever do such a work as that young minister is doing in that neighborhood he would like to prepare himself to preach the gospel of Christ Jesus. It made me think of the time when I stood near the pulpit where dear Bro. Reed was preaching. I thought that, if I ever could in any way, direct or indirect, help him to plead with a lost and sinful world, I would rather do it than any thing else. Dear brother or sister, is *your* boy in his teens growing up to love righteousness and hate iniquity, or is it the other way? God forbid that it may be said of any boy of that tender age that he is learning to love *iniquity* and to hate *righteousness*; and yet sometimes, dear friends, I fear that well-meaning people sometimes prejudice the boy against righteousness by little flings at the Christian religion, the church, or the Sunday-school. At the Omaha Exposition a man who stood outside of one of the tents in Midway said if there were any Sunday-school boys present they had better go home, for that was no place for them; and then the crowd laughed their approval or smiled it, thinking, evidently, *they* were a great deal superior to the boys who go to Sunday-school, and whose *hearts* are *pure*.



Let us lay aside every weight, and the sin which doth so easily beset us, and let us run with patience the race that is set before us.—HEB. 12:1.

About the middle of October a letter came from a nephew of mine, who is much interested in agriculture, saying he expected to visit the fair at Randolph, Portage Co., Ohio, and that if I could make it convenient he would very much like to have me come over on my wheel, as he would not have time to call at Medina this trip. Now, we generally have some beautiful days about that time in October. There will be a good deal of sunshine in the middle of the day, but at night there is often a frost; therefore I feared to go away from home without my overcoat and fur cap. I might have taken a train at least half the way; but I so much prefer wheel-riding I started out early in the morning with said overcoat and fur cap tied to my handle-bars. Before I had gone many miles the sun shone so warm I took off my undercoat also, and rode about 25 miles with all this weight—a weight that I did not need at all, and which I should have been much more comfortable without. When I had gone part way I found my nephew would not get in before the evening train, and I greatly wanted to pay a visit to my cousin,

Wilbur Fenn, who, I thought, must be about ready to dig his potatoes. I started off on my wheel just in my shirtsleeves. Oh what a contrast! While making 25 miles with my two coats and cap weighing about 5 pounds, I became so fatigued I began to think I was almost too old for wheel-riding; but after I deposited my useless clothing and started off in my shirtsleeves with nothing to carry—why, I felt like a schoolboy released from school. And now please, dear reader, do not think me irreverent when I tell you that I could not help thinking of Christian in Pilgrim's Progress after he had been relieved of his burden; and then this beautiful verse—the first one in the twelfth chapter of Hebrews—came to mind. Why, with my 20-pound wheel I went up hill and down, through sand and over rough places, and had strength and to spare. A wheelman very soon learns the importance of laying aside every weight, as Paul puts it. I always get rid of every useless thing in my pockets; in fact, it seems as if I could tell the difference between a silver dollar and a paper one, so I carry paper money as much as I can. I change my heavy shoes for light ones, and use the lightest clothing that will keep me comfortably warm. In fact, I have been for some years considering the matter of silk underwear. You know silk gives more protection for the weight than almost any other fabric.

Well, I found Wilbur out in the field with several men testing a new potato digger. The potatoes were Rural No. 2. The yield was rather light, and the potatoes had been pretty well hilled up to their detriment, during the severe drouth just passed through; but as it was, the potato digger, with a light team of horses, did very nice work. This digger is the Improved Standard. I mentioned it in my writings a year ago. Cousin Fenn is raising this year, principally, Carman No. 3 and the Russet—a potato I have mentioned several times. This Russet, on his ground, proves to be so nearly scab-proof that he thinks we can not find a scabby potato in some two or three acres, although there are some that are pretty badly scabbed among the Carmans on the same ground. Well, we talked potatoes and strawberries so long that it was after dark before I got started home, and there I was in my shirtsleeves; but the weather was quite warm, and the moon was almost full; so I got back to my cousin's, and greatly enjoyed my moonlight ride. Now, I am getting to be almost too old to be "moonshiny," but, notwithstanding, there is something to me particularly fascinating and exhilarating in riding by moonlight. The wheel I am riding now is not the Columbia chainless; but it has a gear-case so the chain and sprocket-wheels are just as well protected as the bevel gear in the chainless. The Columbia people refuse to make a wheel lighter than one weighing about 27 lbs.; and such a wheel would carry safely a man weighing 250 lbs., while I weigh only about half that. Now, I protest against being loaded down with a machine heavy enough to carry a man who weighs twice what I do. It is right on the principle of the verse

I have quoted in regard to laying aside every useless weight.

Now, this is not Home Papers, friends; but, notwithstanding, I wish to say a word about going through life loaded down with sin—or, if you choose, the memory of sinful acts—when you go to bed at night or open your eyes in the morning. Who can compute what a hindrance it is—how it spoils all our enjoyment and happiness—to be loaded down with the recollection of sins unrepented of, or wrongs you have done your fellow-men that have never been righted! Oh! let us be boys as long as we live. Let us leave the useless weights, and go about the world in our shirtsleeves, especially when it is hot weather; and let us also, no matter what the cost, get rid of these burdens of sin; then we can run or ride or play.

Next morning I started out to catch my nephew and my uncle. They did not know of my determination to be one of the party, and therefore when I reached "Uncle Ben's," "Aunt Mary" informed me they had left for Randolph about ten minutes before my arrival. How long do you suppose it took me to catch up with a horse having ten minutes the start of me? Had it been on level ground I might have done better; but as it was over hills, and sandy ones at that, I had made two miles before I managed to run ahead of them and asked them to halt. Now, we could not visit very well while I was riding a wheel, so I left mine at a farmhouse and got into the buggy. After we had ridden a little way I discovered my two relatives expected to stay till night, while I had planned to make Medina, between thirty and forty miles away, before Sunday came. This Randolph fair has been kept without a miss for 41 years. It is near a small country town, or you might say four corners, and therefore the fair is held only one day. As there is a very nice farming community in that neighborhood they manage to have a pretty fair country fair. But before I reached the fairground I was greatly interested in a large apple-orchard. Some 3000 bushels were picked, and lying on the ground. In fact, they were just being assorted and barreled. I managed to have a little chat with the owner of the orchard; and here is a pointer he gave me to which I invite the consideration of our experiment stations. I told him my Keiffer pears were one-fourth wormy, notwithstanding the trees were sprayed four times.

"Mr. Root," said he, "you did not put on enough Paris green."

"But we put on enough to injure the foliage somewhat."

"But suppose you did injure the foliage. You had better have the leaves of your tree hurt a little, or, say, a good deal, than to have a quarter of your apples made unsightly and unsalable by worms. I make my solution strong enough with copper sulphate and Paris green both to scorch the leaves on almost every tree; but I have no wormy apples. See if you can find one. Two years ago an accident taught me a lesson. I bought Paris green and copper enough for my whole or-

chard. But I was sick, and could not attend to it. The hired men came to me when they were not more than half done, saying they were out of chemicals. I told them they had been making the solution too strong. They said they found it out after they had gone a little way, and made it weaker. Now, on the first trees they sprayed they killed pretty nearly all the foliage. I supposed the apples were done up, and perhaps the trees also; but it was a bad year for apples, and about all the crop I had was on those trees they had sprayed so unmercifully. More leaves came out in place of those that had been killed, and more blossoms came. The fruit was later, but it was free from scab and worms."

At both the Akron and the Randolph fairs there were more Carman No. 3 potatoes on exhibition than any other kind. Quite a few potatoes were wrongly named. There were potatoes at both fairs labeled "Early Ohio," but I am sure not a potato at either place was a genuine Early Ohio.

Well, by one o'clock I had seen all the fair I cared to, and had a little visit with my relatives, and I was ready to go home. But my wheel was six miles out in the country. My friends almost insisted on taking me that far with a horse and buggy; but to do this, somebody had got to leave the fair just at a time when the racing and bicycle-riding were going on. I told them that, rather than make them that trouble, I would start a little earlier and go those six miles on foot. My friend, how long would it take *you* to walk six miles? I thought I could do it easily in an hour and a half; but it took just two full hours, and it was awful hard work at that. As I did not want to be seen on the fairground in my shirtsleeves I carried my light coat; but before I had made the six miles I felt as if I would have given 25 cents gladly to have somebody carry it for me. It took me two hours to go on foot a distance I could easily have made in 30 minutes with my wheel. When I once got my hands on it I thanked God with unusual fervor that he permitted me to live during the age of wheels. Now, something queer happened right here. I had been many times curious to know whether one could ride a wheel with vigor after he has been tired out by going on foot. I was just about used up walking those six miles that warm day; but when I got hold of the wheel I sat on its easy comfortable seat and rested. The set of muscles that help you walk are used scarcely at all in propelling a wheel; or, in other words, the muscles needed to push that wheel up hill and down over those sandy roads did not seem to be tired at all by my exhausting walk.

Because of the longer time it took me to walk the six miles, I found I could not make my train at Akron, and so I stayed over night with the friends I have mentioned in the Home Papers, and enjoyed the pleasure of listening to the young minister of whom Mahlon thinks so much.

Just about as soon as I could see, Monday morning, I was on my wheel again; but I did not have any coats or fur cap to bother me. I bundled them all up and told my friends

to express them to Medina the first time they went to Akron. Oh what fun it was riding those 25 miles during that beautiful October morning, almost before people were up and stirring! All along the road—that is, early in the morning—I met people with overcoats, gloves, and fur caps, and even then shivering in the damp and almost frosty air; but I in my shirtsleeves, and with my vest unbuttoned, was warm, happy, and well. I had a light lunch at starting, and then I had my breakfast at about half way. I have learned by experience that it is not best to undertake to ride too far before breakfast. When you are just tired enough to think of resting a little, and have a real good chance, then get your breakfast. After a good meal and a little rest you can ride a good many miles before noon, if need be. But please bear in mind, if you wish to enjoy wheel-riding you must put your requirements into a very light package or else send them forward by express, to reach you about the time you will have need of them; and do not forget, dear brother or sister, through this journey of life, to put aside in like manner the sin which doth so easily beset us, as we have it in that beautiful passage I have quoted. Then shall we run and not be weary; and we shall walk and not faint. Yea, we have the promise in the Scriptures that we shall mount up with wings as eagles; for they that wait upon the Lord do renew their strength.



ROBBING DEAF AND LAME PEOPLE; A SEQUEL TO ROBBING SICK PEOPLE.

One of our readers in Mississippi sends me a lot of circulars from one W. J. Tindall, of Cohoes, N. Y. The writer of the letter to me is deaf; and Tindall claims, after long years of study and experiment, to have invented an apparatus to cure deafness of every description. He calls it an *electricion*. I clip the following:

The *electricion* applies a mild current of *pure galvanic electricity* directly to the diseased or weakened parts of the ear and its connections, and to the nerves of hearing, re-establishing perfect circulation, and giving full tone, strength, and life to each affected part.

I do not know whether the kind of "currents" he is writing about is the kind that grows on bushes or not, but he spells it that way. And, by the way, these medical frauds are almost sure to betray their ignorance by their bad grammar and bad spelling. Tindall tells a long and pitiful story of how he first went to the family doctor with his deafness, then from one city specialist to another, all making him worse instead of better; and then he says a great scientific man (who does not doctor or do any thing else for *money*) told him that medicines and instruments could never cure deafness; it would have to be done by means of a *galvanic currant* (c-u-r-r-a-n-t,

mind you). But this doctor told him (sadly) that no such apparatus had then been invented, but he expected it would be before very long. Then Tindall went to work experimenting, and after much pains and great labor he invented the electrical apparatus that does the business. Our Mississippi reader wants my opinion of it.

First, I do not believe that any kind of current of electricity, or electricity in *any* form, will ever build up diseased tissues as he tells about; secondly, I am quite sure that this apparatus of Tindall's has not any thing to do with electricity at all. It is like Electropoise and the glass castors (that are advertised to put under the legs of the bed) and all these traps. They have nothing to do with genuine electricity at all. The price of the electricon is a good deal; but friend Tindall, out of the kindness of his heart (?) toward deaf people, will sell a pair for \$7.00. These are wholesale prices, and cover only the cost of making the apparatus. Furthermore, he explains to all why he must positively have cash in advance, no matter how much money a man may have, or what his commercial rating may be. He *must* have cash in advance, or no sale. This last opens the way for a little story from my own experience, in our next issue.

Special Notices by A. I. Root.

See our clubbing offers on page 814 for those who renew before their present subscription expires.

CHOICE POTATOES FOR SEED.

NAME.	1 lb. by mail.	3 lbs. by mail.	1/2 peck.	Peck.	1/2 bushel.	Bushel.	Barrel—11 pk.
Varieties are in order as regards time of maturing; earliest first, next earliest second, and so on.							
Red Bliss Triumph.....	\$ 18	40	25	40	75	1 25	3 00
Bovee.....	18	40	25	40	75	1 25	3 00
E. Thoro'bred, Maule's.....	18	40	20	35	60	1 00	2 50
Early Ohio.....	18	40	25	40	75	1 25	3 00
Burpee's Extra Early.....	18	40	25	40	75	1 25	3 00
Freeman.....	18	40	20	35	60	1 00	2 50
New Queen.....	15	35	20	35	60	1 00	2 50
Monroe Seedling.....	15	35	20	35	60	1 00	2 50
Rural New-Yorker No. 2.....	15	35	20	35	60	1 00	2 50
Mill's Prize.....	15	35	20	35	60	1 00	2 50
Carman No. 1.....	18	40	20	35	60	1 00	2 50
Carman No. 3.....	18	40	20	35	60	1 00	2 50
Sir Walter Raleigh.....	18	40	20	35	60	1 00	2 50
State of Maine.....	15	35	20	35	60	1 00	2 50
Manum's Enormous.....	18	40	25	40	75	1 25	3 00
New Craig.....	18	40	25	40	75	1 25	3 00

Seconds of any of the above will be half the price of firsts, with the understanding that the seconds contain not only the small potatoes but those that are scabby, prongy, or cut in digging. The scabby ones are good for seed if treated in the usual way with corrosive sublimate, but they are a little more trouble.

Please notice there are no seconds at half price in potatoes postpaid by mail. The principal part of the price of potatoes by mail is for postage stamps; and Uncle Samuel does not have any second quality of postage stamps that he sells at half price. Another thing, when you go to the expense of paying postage on potatoes, you will naturally be supposed to want the very best and nicest that can be picked out.

ADDITIONAL LIST OF SEED POTATOES.

Since giving our list on page 733, Oct. 1, we have dug our miscellaneous varieties, and I have concluded to offer for sale the following kinds briefly described:

Poor Man's Friend.—A large blue potato; good yielder; good quality. Several of our hands said, while we were picking these potatoes, they looked exactly like the old Blue Victor—a potato that at one time had a big run.

Adirondack.—A large handsome potato much like Carman No. 3; good yielder, good quality.

Queen of the Valley.—A good deal like the New Queen, but has grown larger for us this year; perhaps not quite as early as New Queen, however.

Hundredfold.—A potato advertised with large claims, by Salser.

Bugless.—This is a very strong grower, good yielder, and is about as near being "bug-proof" as the New Craig.

Lee's Favorite.—A well-known medium-early sort.

The above are all late and medium-late varieties. The prices will be the same as Carman No. 3 in table.

Of early and extra early we have Early Vaughn, Early Andes, Early Vermont, and Twentieth Century. The prices are the same as for the Early Ohio in the table.

Last, but not least, I have purchased of Wilbur Fenn 100 bushels of the new Russet potato, said to be scab-proof. Yesterday, Oct. 25, I hunted over a large field of his that had been heavily manured with green stable manure, on purpose to make them scabby if they ever do become scabby; but I was not able to find a really scabby potato anywhere, even where the most manure had been put on the poorest spots; but the same treatment made Carman No. 3, right alongside, show quite a few scabby potatoes. Another test was made by planting them in an old garden that had been for years badly infested with scab; but where other some varieties were so scabby as to be fit for nothing, the Russet showed scab on only a few potatoes, and but very little of it. In our Oct. 1st issue I reported that the Russets on our own place showed some scab; but after washing the potatoes and giving them a more careful examination I found that what I had taken for scab was the work of wireworms. Taking it all in all, the new Russet comes the nearest of being scab-proof of any potato I have ever got hold of. Prices will be the same as for Early Ohio in the table. All the above, with the exception of the Russet, will be sold in seconds at half price—that is, as long as the seconds last. If you are going to order this fall, better send soon, so as to be sure to avoid frost.

CONVENTION NOTICES.

That "irrepressible" Colorado State Bee-keepers' Association will hold their annual convention Nov. 27, 28, and 29, in the State House, Denver, beginning at 10 A. M. As usual, the State Agricultural College will assist us. Every one should come loaded with ideas and subjects for discussion, and those who can not come should write soon to the secretary or president and tell the needs of your locality or what you want the association to do. The members will be the program. We know from experience that you will make a lively convention. Come, everybody. There is sure to be "a hot time in the old town."

R. C. ATKIN, Pres., Loveland, Col.

F. RAUCHFUSS, Sec'y, Box 378, Denver, Col.

I am well pleased with the Danzy hive. We had some of the finest honey this year that I ever saw.
Alpena, Mich., Oct. 2. ALLEN KING.

Dear Brother Root.—I am glad you have quit sending for patent medicine, and taking it to see whether it is good for any thing, as I do not think it your duty to become a martyr for the benefit of your readers.
MRS. F. I. SCHUYLER.

I have sent my order for supplies to W. A. Selser, Philadelphia. I have so far used no goods but yours, and will continue to do so as long as you treat me right.
JOSEPH SCHATZLE.
Carbon, Pa.

THE PICTURE OF THE CAULIFLOWER-FIELD IN OUR LAST ISSUE.

Mr. Root.—The photo was taken the 12th of August, 1899, just as we were tying the plants to stakes. The picture also represents our style of irrigation with cotton hose. The man is using 300 feet of hose, with only half a head of water, as the plants at this stage of growth are very brittle, and a full head would crush the stalks. The plants commence blooming by the middle of July, and continue until about the last of August. At this time there is no other bloom on the island, and the bees just tumble over one another for the nectar the blossom secretes.

Fidalgo, Wash., Oct. 19.

H. A. MARCH.

Gleanings in Bee Culture

[Established in 1873.]

Devoted to Bees, Honey, and Home Interests.

Published Semi-monthly by

The A. I. Root Co., - - Medina, Ohio.

A. I. ROOT, Editor of Home and Gardening Dep'ts.
E. R. ROOT, Editor of Apicultural Dept.
J. T. CALVERT, Bus. Mgr.

TERMS. \$1.00 per annum; two years, \$1.50; three years, \$2.00; five years, \$3.00, *in advance*; or two copies to one address, \$1.50; three copies, \$2.00; five copies, \$3.75. The terms apply to the United States, Canada, and Mexico. To all other countries 48 cents per year extra for postage.

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RECEIPTS FOR MONEY. We send no receipt for subscription money. The change of the date on the little label shows you that the money has been duly received and credited. During December and January it sometimes takes us three or four weeks before the date is changed.

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